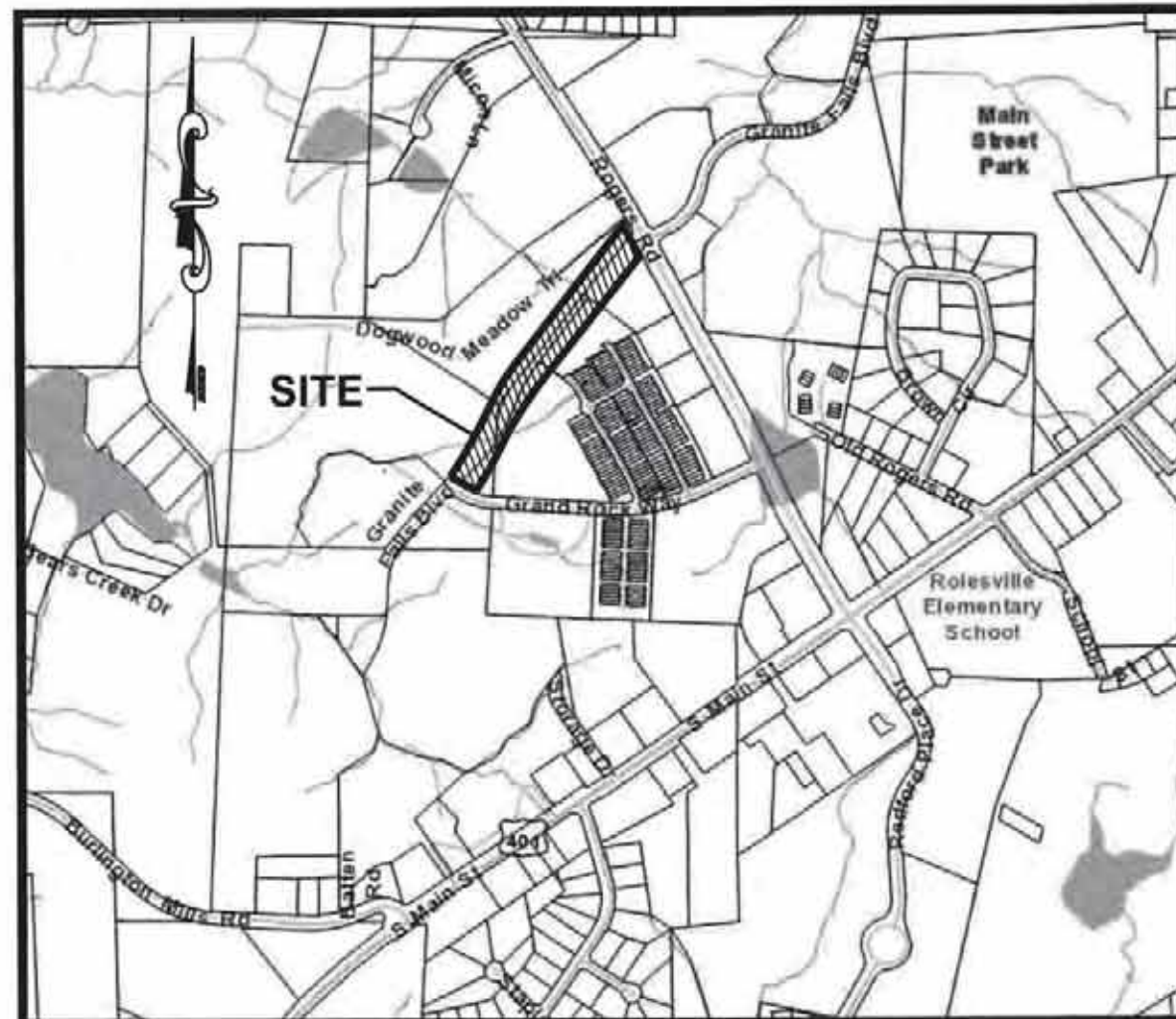




VICINITY MAP
(NOT TO SCALE)

GRANITE FALLS BOULEVARD ROADWAY EXTENSION ROLESVILLE, N.C.

SELF INSPECTION NOTIFICATION:

THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT OCTOBER 1, 2010. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE WEEKLY SELF MONITORING PROGRAM OF THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS MUST BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED IN ACCORDANCE WITH NCGS 113A-54.1 AND 15A NCAC 4B.0131. THE SELF-INSPECTION FORM IS AVAILABLE AT THE FOLLOWING ADDRESS:

<https://deq.nc.gov/about/divisions/energy-mineral-land-resources/erosion-sediment-control/forms>

CONTACT THE DEMLR RALEIGH REGIONAL OFFICE
AT 919-791-4200 AT LEAST 48 HOURS PRIOR TO
COMMENCING THE LAND DISTURBING ACTIVITY.

SHEET INDEX

- CE-1 SITE PLAN
- CE-2 GRANITE FALLS BOULEVARD PLAN & PROFILE
- CE-3 GRANITE FALLS BOULEVARD PLAN & PROFILE
- CE-4 ROGERS ROAD PLAN & PROFILE
- CE-5 ROGERS ROAD STRIPING & OVERLAY PLAN
- CE-6 STORMWATER & UTILITY PLAN
- CE-7 EROSION CONTROL PHASE ONE
- CE-8 EROSION CONTROL PHASE TWO
- CE-9 NPDES GROUND STABILIZATION PLAN
- CE-10 SITE DETAILS
- CE-11 UTILITY DETAILS
- CE-12 EROSION CONTROL DETAILS
- CE-13 STORMWATER DETAILS
- LA-1 LANDSCAPING & LIGHTING PLAN

AUGUST 31, 2017

REVISED OCTOBER 20, 2017

REVISED AUGUST 10, 2018

OWNER / DEVELOPER:

TOWN OF ROLESVILLE
502 SOUTHTOWN CIRCLE
ROLESVILLE, NC 27571
919-554-6517

CIVIL ENGINEER:



JOHN A. EDWARDS & COMPANY

Consulting Engineers

NC License F-0289
333 Wade Ave
Raleigh, N.C. 27605
Phone (919) 828-4428
FAX (919) 828-4711

PUBLIC IMPROVEMENT QUANTITIES

6" DIP PUBLIC WATER (LF)	51 LF
12" DIP PUBLIC WATER (LF)	1,475 LF
8" PVC PUBLIC SEWER (LF)	610 LF
8" DIP PUBLIC SEWER (LF)	232 LF

Public Water Distribution/Extension System

The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh
Public Utilities Department Permit # W-3554
Authorization to Construct Jim Beatty
Date 9/13/18

Public Sewer Collection/Extension System

The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Utilities Handbook.

Public Utilities Department Permit # S-4453
Authorization to Construct Jim Beatty
Date 9/13/18

ATTENTION CONTRACTORS

The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 996-4540 at least twenty four hours prior to beginning any of their construction.

Failure to notify both City Departments in advance of beginning construction, will result in the issuance of **monetary fines**, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for inspection, install a Downstream Plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards will result in a **Fine and Possible Exclusion** from future work in the City of Raleigh.



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and Land Surveyors

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www.jaeco.com



**GRANITE FALLS
BOULEVARD
ROADWAY
EXTENSION**

ROLESVILLE, NC 27571

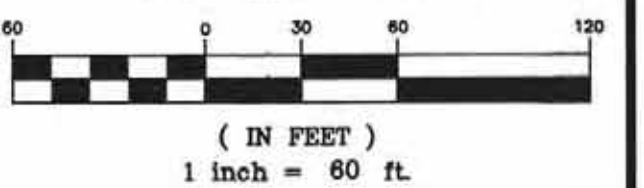
TOWN OF ROLESVILLE
502 SOUTHTOWN CIRCLE
PO BOX 250
ROLESVILLE, NC 27571

LEGEND

DB DEED BOOK
BM BOOK OF MAPS
PG PAGE
N/F NOW OR FORMERLY
R/W RIGHT OF WAY
ST STORM
RCP REINFORCED CONCRETE PIPE
CON. CONCRETE
EIP EXISTING IRON PIPE
MON EXISTING CONCRETE MONUMENT
CP CALCULATED POINT
IPS IRON PIPE SET
DENOTES CONCRETE

PROPERTY LINE
RIGHT-OF-WAY
PDE PRIVATE DRAINAGE EASEMENT
TCE TEMPORARY CONSTRUCTION EASEMENT

GRAPHIC SCALE



SITE PLAN

Revisions		
Date	Description	By
8-10-18	PER WAKE COUNTY, ROLESVILLE, CITY OF RALEIGH, NCDOT, & NCDEG COMMENTS	LEH

JAECO #: 830-02

Drawn By: LEH

Checked By: JAE

Date Issued: 08-31-2017

CE-1

REQUIRED SITEWORK DEDICATIONS

FRANK C PEARCE JR PROPERTIES

PUBLIC RIGHT-OF-WAY DEDICATION: 48,809 SF
TEMPORARY CONSTRUCTION EASEMENT (TCE): 41,036 SF
PUBLIC DRAINAGE EASEMENT (PDE): 19,294 SF

WOODROW MARLOWE PROPERTY

PUBLIC RIGHT-OF-WAY DEDICATION: 14,219 SF
TEMPORARY CONSTRUCTION EASEMENT (TCE): 9,167 SF
PUBLIC DRAINAGE EASEMENT (PDE): 24,596 SF

GRANITE RIDGE TOWNHOMES PROPERTY

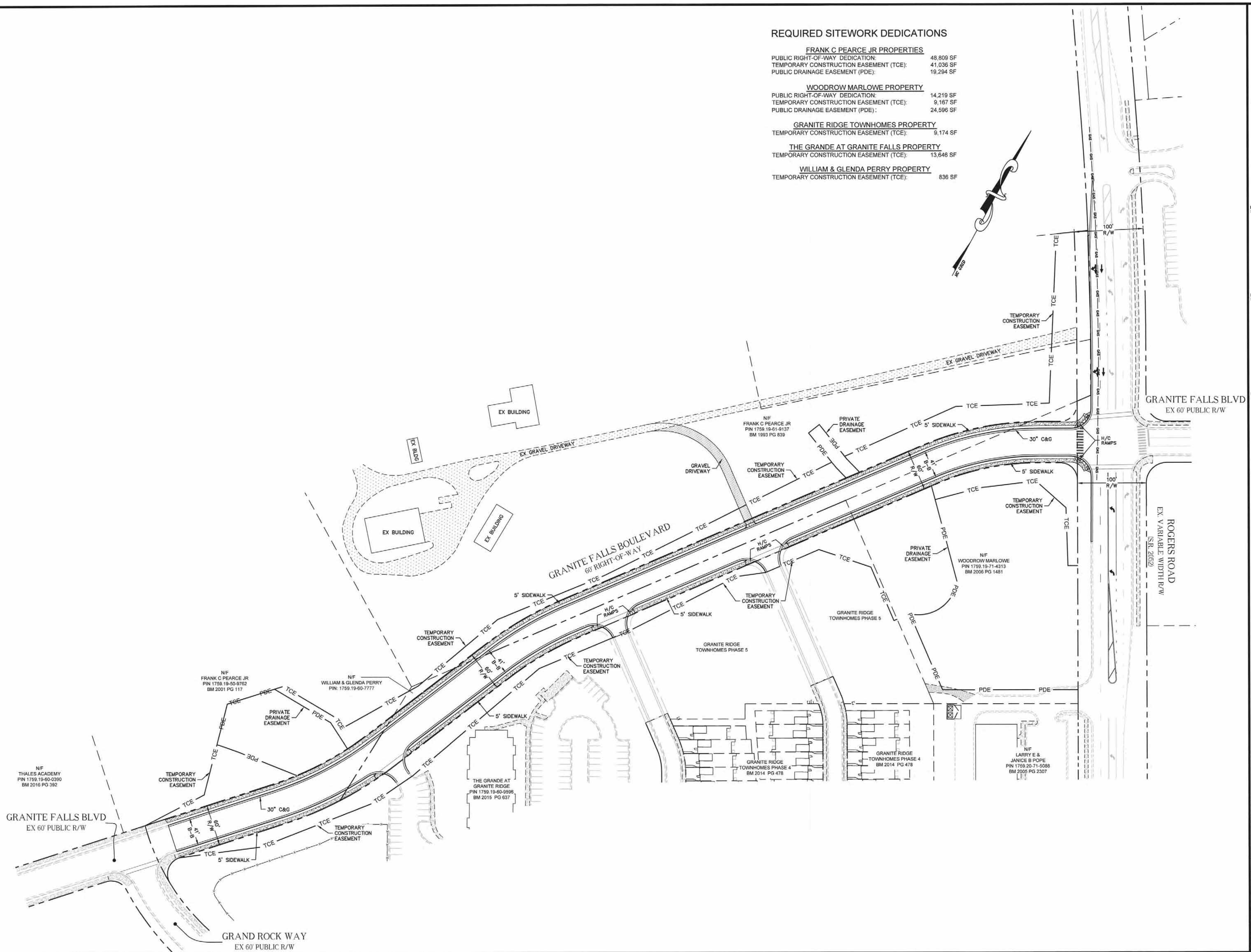
TEMPORARY CONSTRUCTION EASEMENT (TCE): 9,174 SF

THE GRANDE AT GRANITE FALLS PROPERTY

TEMPORARY CONSTRUCTION EASEMENT (TCE): 13,646 SF

WILLIAM & GLENDA PERRY PROPERTY

TEMPORARY CONSTRUCTION EASEMENT (TCE): 836 SF



GENERAL NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
3. STORM DRAINAGE INSTALLATION SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS AND SPECIFICATIONS.

ATTENTION CONTRACTORS

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Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require reinstallation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for inspection, install a Downstream Plug, have Permittes Plans or labels, or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.

Public
Water Distribution/Extension System

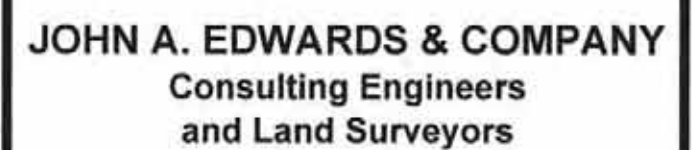
The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

City of Raleigh
Public Utilities Department Permit # W-3554
Authorization to Construct 2in Bessly
Date 9/13/18

Public
Sewer Collection/Extension System

The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and Construction methods used for this project shall conform to the standards and specifications of the City's Utilities Handbook

Public Utilities Department Permit # 6-4453
 Authorization to Construct 2 in Beasley
 Date 9/13/18



NC License F-0289
333 Wade Ave., Raleigh, N.C. 27605
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Fax: (919) 828-4711
E-mail: info@jaeco.com

www.jaeco.com



ROLESVILLE, NC 27571

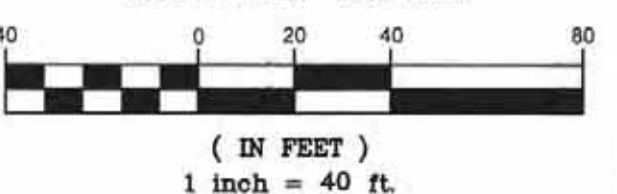
TOWN OF ROLESVILLE
502 SOUTHTOWN CIRCLE
PO BOX 250
ROLESVILLE, NC 27571

ALL CONSTRUCTION SHALL BE
IN ACCORDANCE WITH NCDOT
STANDARDS AND SPECIFICATIONS.

LEGEND

 EX. SANITARY SEWER MANHOLE
 EX. WATER VALVE
 PROPOSED FIRE HYDRANT (FH)
 PROPOSED WATER VALVE (WV)
 PROPOSED WATER METER (WM)
 PROPOSED MANHOLE (MH)
 PROPOSED CLEANOUT (CO)
 W PROPOSED WATER LINE
 SS PROPOSED SANITARY SEWER
 PROPOSED CATCH BASIN
 PROPOSED STORM PIPE
 NRB EXISTING NESTLE RIVER BUFFER
 EXISTING WETLAND

GRAPHIC SCALE



Drawing Title

GRANITE FALLS BLVD PLAN & PROFILE

Revisions

[illegible]

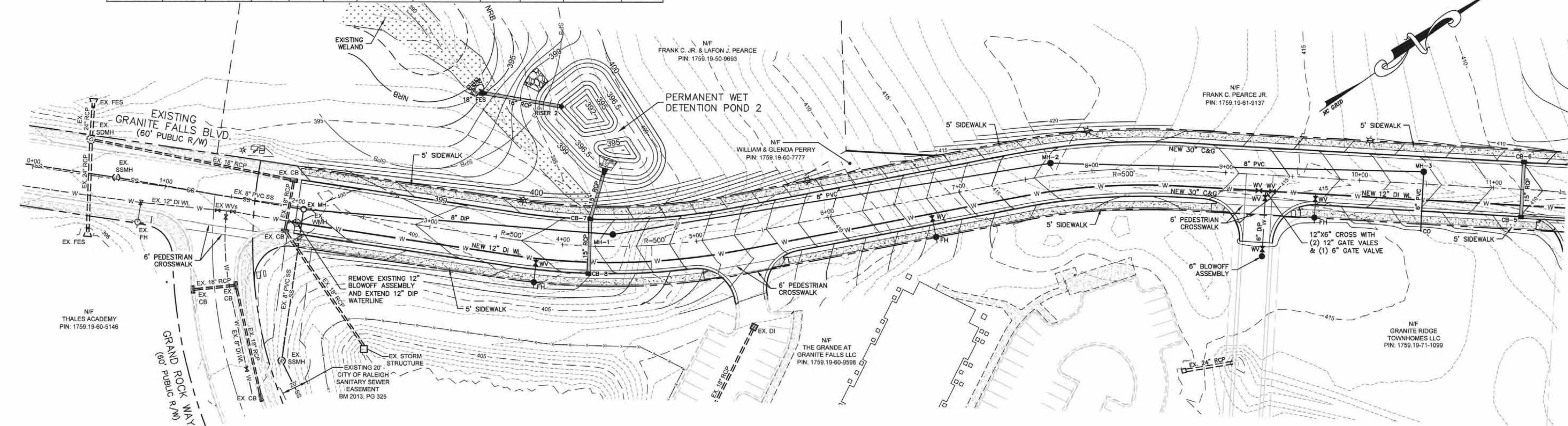
JAECO #: 830-02

Drawn By: LEH

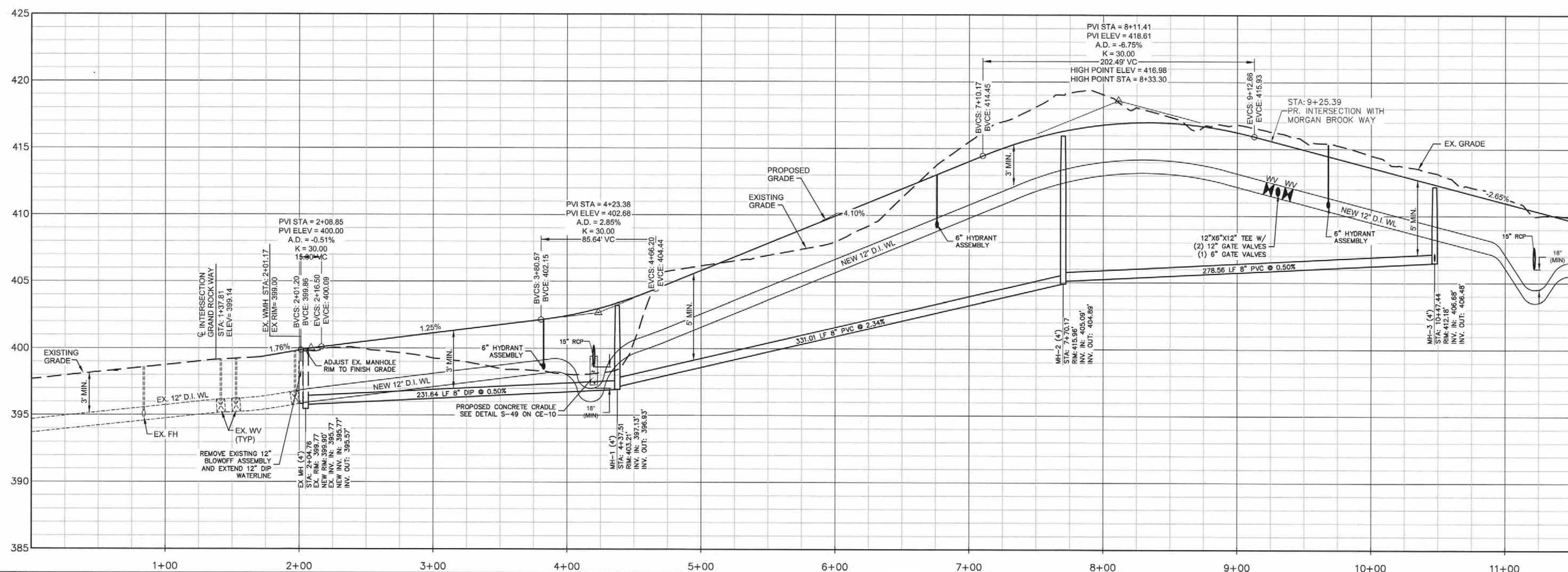
Checked By: JAE

Date Issued: 08-31-2017

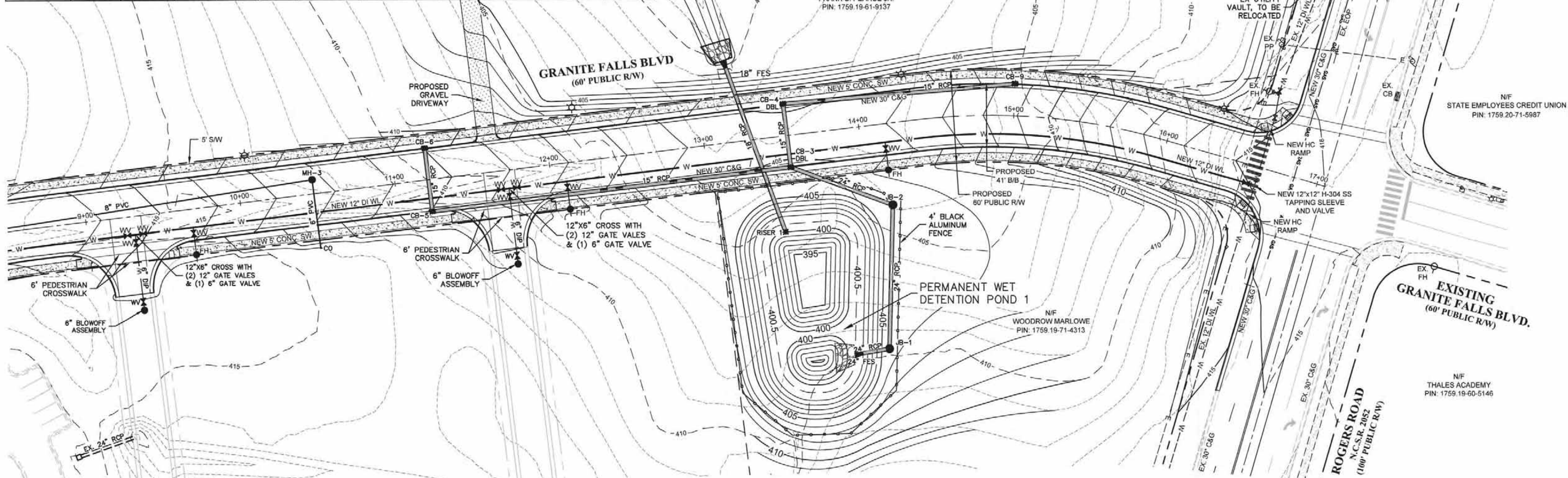
CE-2



GRANITE FALLS BLVD. (STA. 0+00 - 11+50)



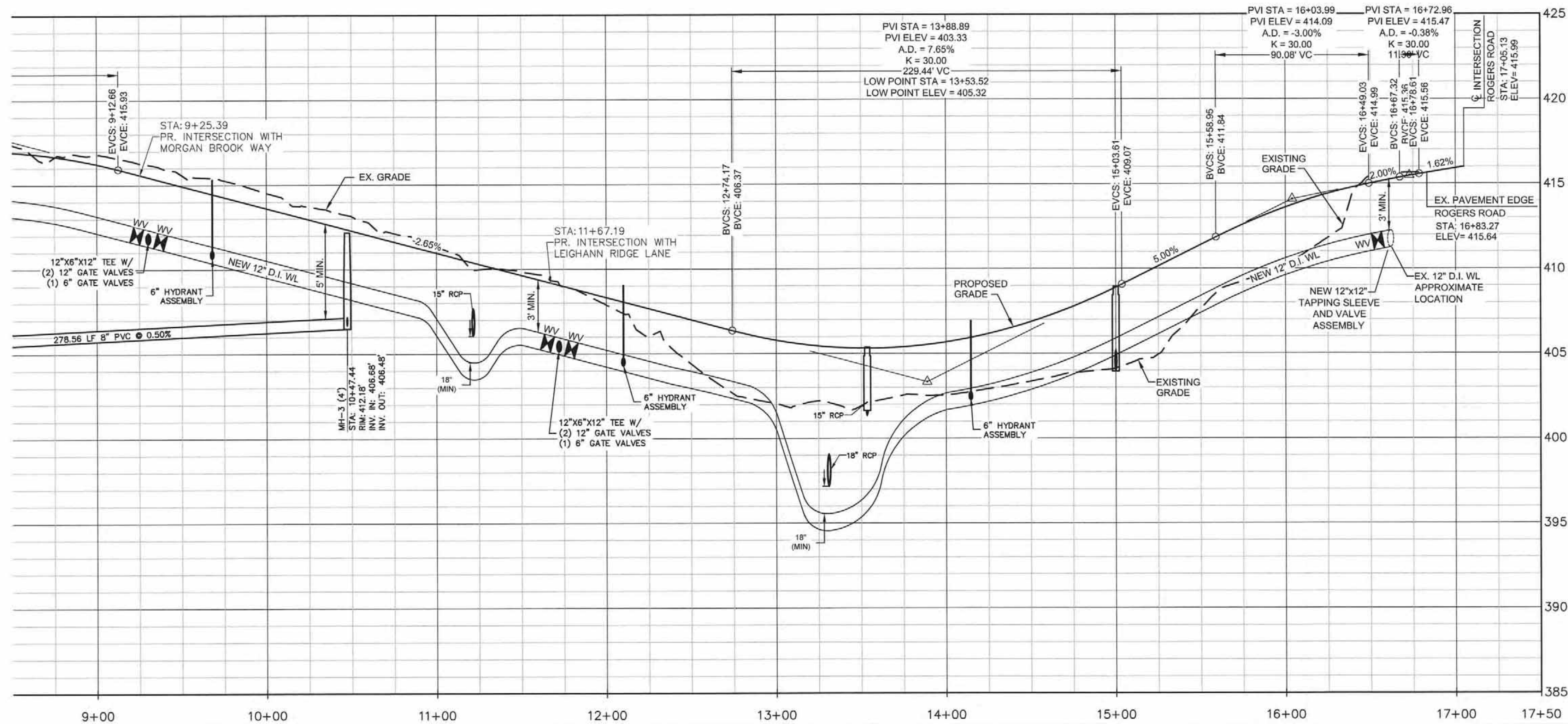
Start Node	Elevation (Start) (ft)	Stop Node	Diameter (in)	Length (ft)	Slope (%)	Invert (Upstream) (ft)	Invert (Downstream) (ft)	Upstream Inlet C	Upstream Inlet Area	Upstream Structure Flow	Total Flow (Q10)(cfs)
RISER1	404.00	18" FES	18	117	1.0%	398.00	396.83	(N/A)	(N/A)	ATTENUATION	2.5
RISER 2	398.00	18" FES	18	62	1.0%	392.32	391.70	(N/A)	(N/A)	ATTENUATION	0.7
JB-1	405.50	18" FES	24	22	0.5%	400.61	400.50	(N/A)	(N/A)	0.0	13.5
JB-2	405.75	JB-1	24	93	0.5%	401.07	400.61	(N/A)	(N/A)	0.0	13.6
CB-3(Double)	405.36	JB-2	24	70	0.5%	401.42	401.07	0.73	0.57	3.0	13.6
CB-4(Double)	405.36	CB-3	15	41	0.5%	401.63	401.42	0.78	0.26	1.5	4.2
CB-9	408.94	CB-4	15	150	1.5%	403.94	401.63	0.78	0.49	2.8	2.8
CB-6	410.45	CB-5	15	41	1.0%	406.45	406.04	0.85	0.20	1.2	1.2
CB-5	410.45	CB-3	15	232	1.9%	405.84	401.42	0.58	0.58	2.5	3.7
CB-7	402.94	15" FES	15	39	1.0%	396.89	396.50	0.85	0.27	1.7	4.1
CB-8	402.94	CB-7	15	41	1.0%	399.00	398.59	0.54	0.63	2.5	2.5



- GENERAL NOTES
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 - STORM DRAINAGE INSTALLATION SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS AND SPECIFICATIONS.

ALL UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS AND SPECIFICATIONS.

GRANITE FALLS BLVD. (STA. 8+50 - 17+05.13)



ATTENTION CONTRACTORS

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Public Water Distribution/Extension System

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City of Raleigh
Public Utilities Department Permit # W-3554
Authorization to Construct *Tim Bash*
Date *9/13/18*

Public Sewer Collection/Extension System

The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Utilities Handbook.

Public Utilities Department Permit # *54453*
Authorization to Construct *Tim Bash*
Date *9/13/18*



JOHN A. EDWARDS & COMPANY
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and Land Surveyors

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E-mail: info@jaeco.com

www.jaeco.com



GRANITE FALLS BOULEVARD ROADWAY EXTENSION

ROLESVILLE, NC 27571

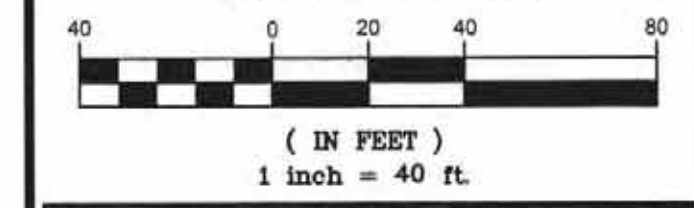
TOWN OF ROLESVILLE
502 SOUTHTOWN CIRCLE
PO BOX 250
ROLESVILLE, NC 27571

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS AND SPECIFICATIONS.

LEGEND

- EX. SANITARY SEWER MANHOLE
- EX. WATER VALVE
- PROPOSED FIRE HYDRANT (FH)
- PROPOSED WATER VALVE (WV)
- PROPOSED WATER METER (WM)
- PROPOSED MANHOLE (MH)
- PROPOSED CLEANOUT (CO)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- EXISTING GAS LINE
- PROPOSED CATCH BASIN
- PROPOSED STORM PIPE
- EXISTING NEUSE RIVER BUFFER
- EXISTING WETLAND

GRAPHIC SCALE



GRANITE FALLS BLVD PLAN & PROFILE

Date	Description	By
8-10-18	PER WAKE COUNTY, ROLESVILLE, CITY OF RALEIGH, NCDOT, & NCEQ COMMENTS	LEH

JAECO #: 830-02
Drawn By: LEH
Checked By: JAE
Date Issued: 08-31-2017

CE-3



JOHN A. EDWARDS & COMPANY
Consulting Engineers
and Land Surveyors

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**GRANITE FALLS
BOULEVARD
ROADWAY
EXTENSION**

ROLESVILLE, NC 27571

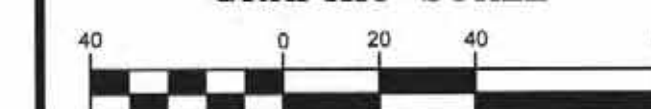
TOWN OF ROLESVILLE
502 SOUTHTOWN CIRCLE
PO BOX 250
ROLESVILLE, NC 27571

ALL CONSTRUCTION SHALL BE
IN ACCORDANCE WITH NCDOT
STANDARDS AND SPECIFICATIONS.

LEGEND

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- EX. WATER VALVE
- PROPOSED FIRE HYDRANT (FH)
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- PROPOSED WATER METER (WM)
- PROPOSED MANHOLE (MH)
- PROPOSED CLEANOUT (CO)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- EXISTING GAS LINE
- PROPOSED CATCH BASIN
- PROPOSED STORM PIPE

GRAPHIC SCALE



(IN FEET)

1 inch = 40 ft.

**ROGERS ROAD
PLAN & PROFILE**

Revisions

Date	Description	By
8-10-18	PER WAKE COUNTY, ROLESVILLE, CITY OF RALEIGH, NCDOT, & NCDOT COMMENTS	LEH

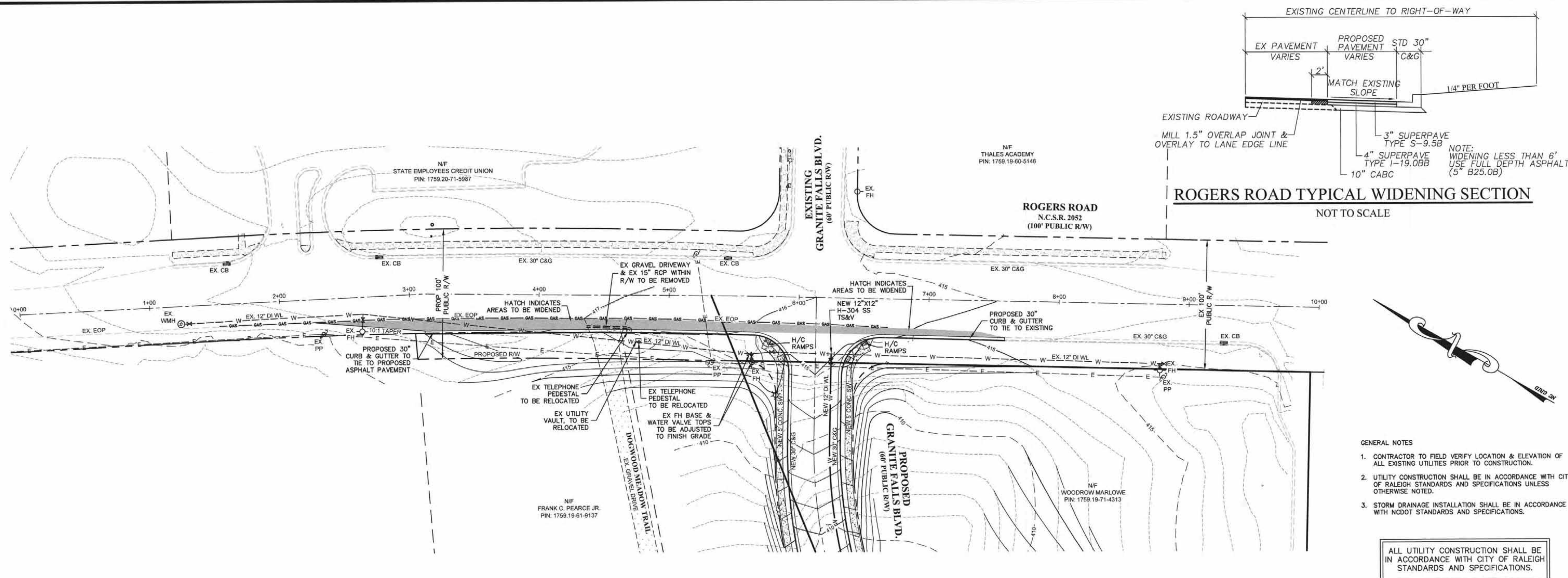
JAECO #: 830-02

Drawn By: LEH

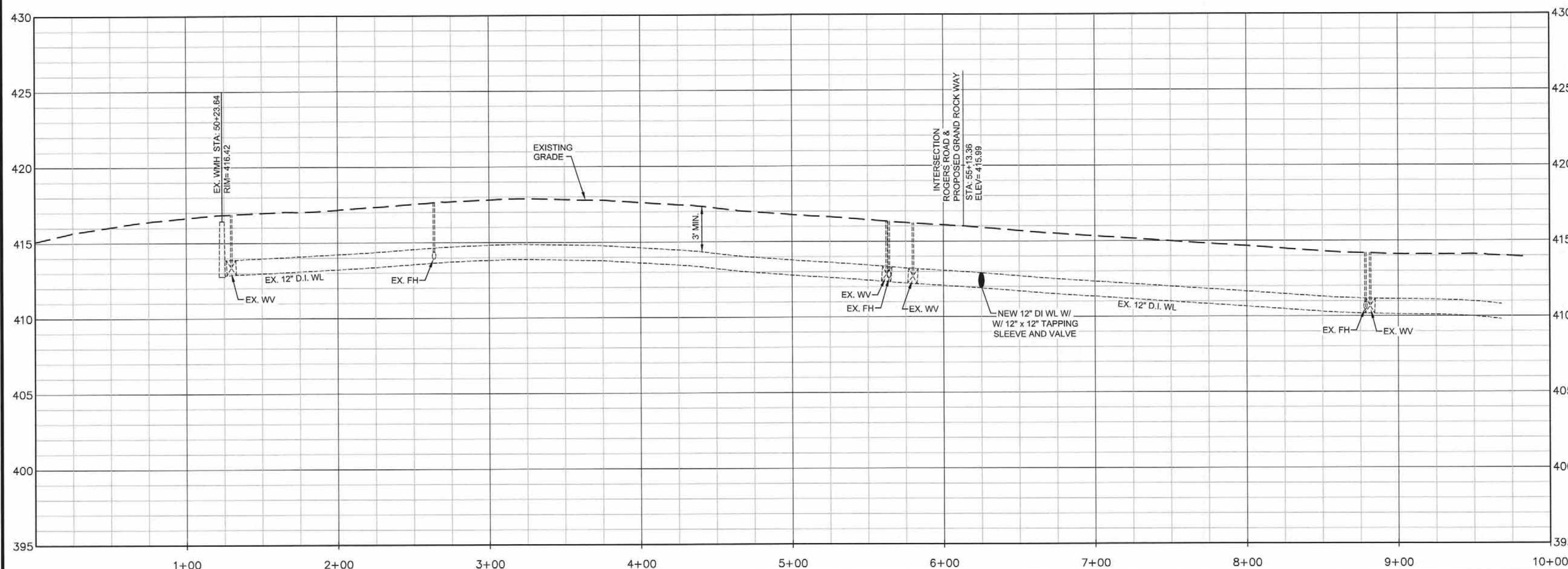
Checked By: JAE

Date Issued: 08-31-2017

CE-4



ROGERS ROAD (STA. 00+00 - 10+00)



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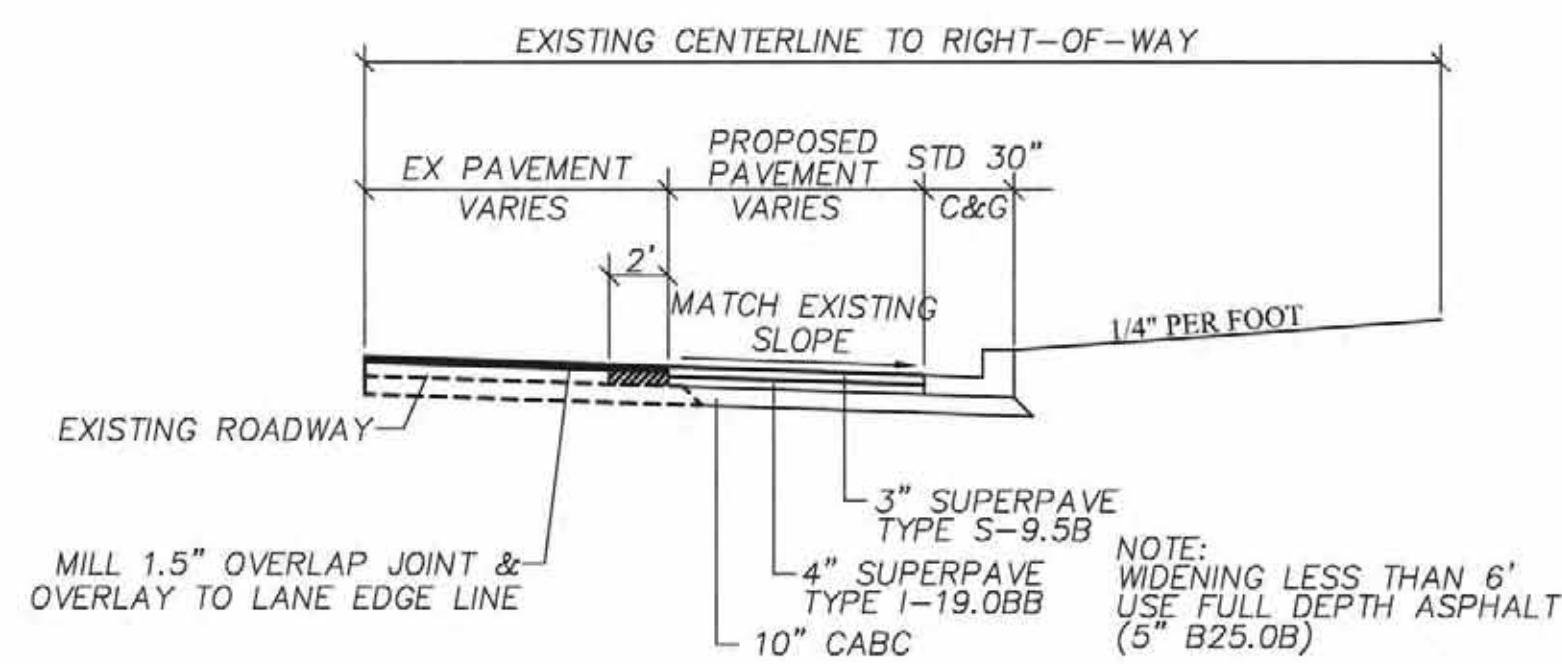
**Public
Water Distribution/Extension System**

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City of Raleigh
Public Utilities Department Permit # W-3554

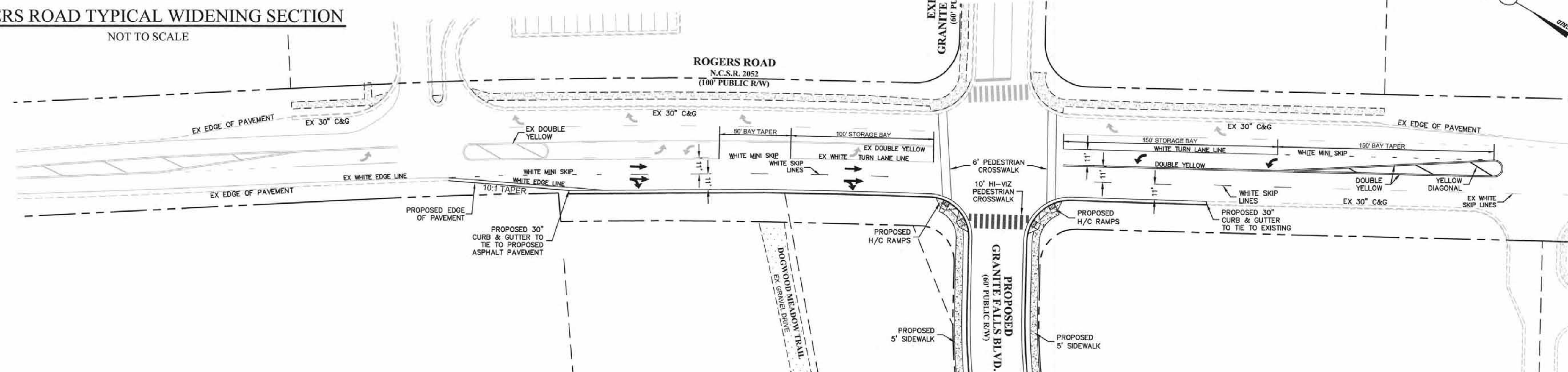
Authorization to Construct: *[Signature]*

Date: 9/13/18



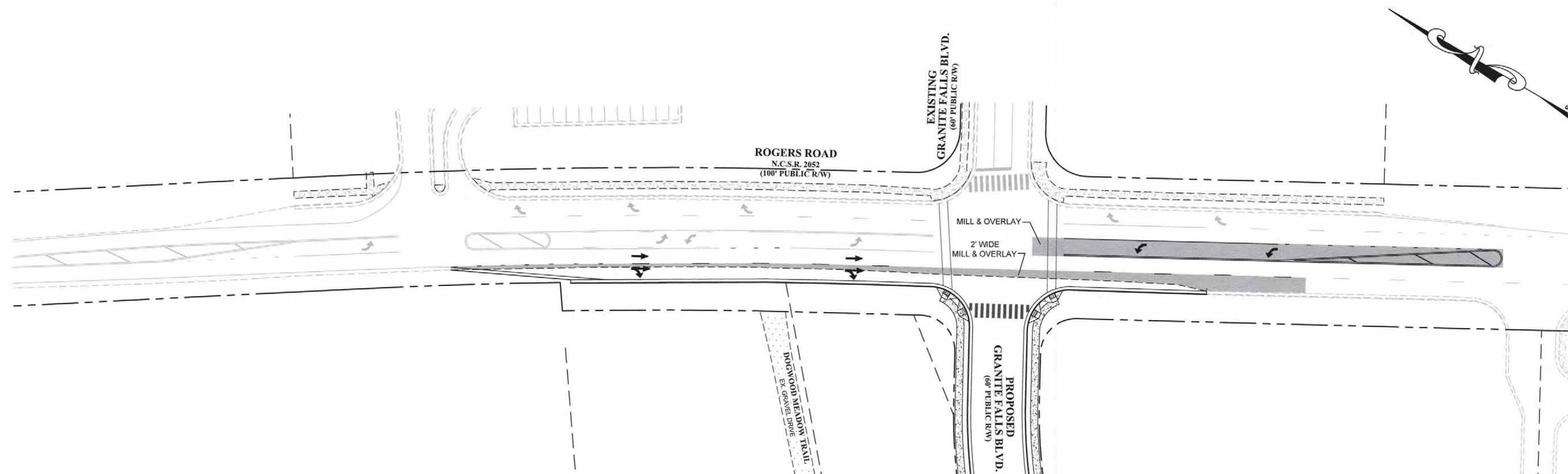
ROGERS ROAD TYPICAL WIDENING SECTION

NOT TO SCALE



ROGERS ROAD - STRIPING PLAN

ROGERS ROAD - OVERLAY PLAN



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**GRANITE FALLS
BOULEVARD
ROADWAY
EXTENSION**

ROLESVILLE, NC 27571

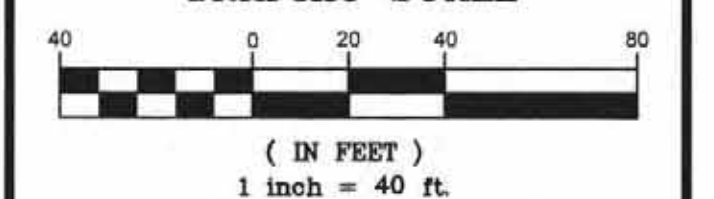
TOWN OF ROLESVILLE
502 SOUTHTOWN CIRCLE
PO BOX 250
ROLESVILLE, NC 27571

ALL CONSTRUCTION SHALL BE
IN ACCORDANCE WITH NCDOT
STANDARDS AND SPECIFICATIONS.

LEGEND

- EX. SANITARY SEWER MANHOLE
- ⊕ EX. WATER VALVE
- ⊕ PROPOSED FIRE HYDRANT (FH)
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- PROPOSED MANHOLE (MH)
- PROPOSED CLEANOUT (CO)
- W — PROPOSED WATER LINE
- SS — PROPOSED SANITARY SEWER
- PROPOSED CATCH BASIN
- PROPOSED STORM PIPE

GRAPHIC SCALE



**ROGERS ROAD
STRIPING & OVERLAY**

Revisions		
Date	Description	By
8-10-18	PER WAKE COUNTY, ROLESVILLE, CITY OF RALEIGH, NCDOT, & NCDEQ COMMENTS	LEH

JAECO #: 830-02

Drawn By: LEH

Checked By: JAE

Date Issued: 08-31-2017

CE-5

STANDARD UTILITY NOTES (as applicable):

- All materials & construction methods shall be in accordance with City of Raleigh design standards, details & specifications (reference: CORPUD Handbook, current edition).
- Utility separation requirements.
 - A distance of 100' shall be maintained between sanitary sewer & any private or public water supply source such as an impounded reservoir used as a source of drinking water. If adequate lateral separation cannot be achieved, ferrous sanitary sewer pipe shall be specified & installed to watertight specifications. However, the minimum separation shall not be less than 25' from a private well or 50' from a public well.
 - When installing water &/or sewer mains, the horizontal separation between utilities shall be 10'. If this separation cannot be maintained due to existing conditions, the variation allowed is the water main in a separate trench with the elevation of the water main at least 18" above the top of the sewer & must be approved by the Public Utilities Director. All distances are measured from outside diameter to outside diameter.
 - Where it is impossible to obtain proper separation, or anytime a sanitary sewer passes over a watermain, DIP materials or steel encasement extended 10' on each side of crossing must be specified & installed to watertight specifications.
 - 5.0' minimum horizontal separation is required between all sanitary sewer & storm sewer facilities, unless DIP material is specified for sanitary sewer.
 - Maintain 18" min. vertical separation at all watermain & RCP storm drain crossings; maintain 24" min. vertical separation at all sanitary sewer & RCP storm drain crossings. Where adequate separations cannot be achieved, specify DIP materials & a concrete cradle having 6" min. clearance (per CORPUD details W-41 & S-49).
 - All other underground utilities shall cross water & sewer facilities with 18" min. vertical separation required.
- Any necessary field revisions are subject to review & approval of an amended plan &/or profile by the City of Raleigh Public Utilities Department prior to construction.
- Contractor shall maintain continuous water & sewer service to existing residences & businesses throughout construction of project. Any necessary service interruptions shall be preceded by a 24 hour advance notice to the City of Raleigh Public Utilities Department.

- 3.0' minimum cover is required on all water mains & sewer forcemains. 4.0' minimum cover is required on all reuse mains.
- It is the developer's responsibility to abandon or remove existing water & sewer services not being used in redevelopment of a site unless otherwise directed by the City of Raleigh Public Utilities Department. This includes abandoning, top at main & removal of service from ROW or easement per CORPUD Handbook procedure.
- Install 1/2" copper water services with meters located at ROW or within a 2x2' Waterline Easement immediately adjacent to the building. It is the applicant's responsibility to properly size the water service for each connection to provide adequate flow & pressure.
- Install 4" PVC sewer services @ 1.0% minimum grade with cleanouts located at ROW or easement line & spaced every 75 linear feet maximum.
- Pressure reducing valves are required on all water services exceeding 80 psi; backwater valves are required on all sanitary sewer services having building drains lower than 1.0' above the next upstream manhole.
- All environmental permits applicable to the project must be obtained from NCDWQ, USACE &/or FEMA for any riparian buffer, wetland &/or floodplain impacts (respectively) prior to construction.
- NCDOT / Railroad Encroachment Agreements are required for any utility work (including main extensions & service ups) within state or railroad ROW prior to construction.
- Grease Interceptor / Oil Water Separator sizing calculations & installation specifications shall be approved by the CORPUD FOG Program Coordinator prior to issuance of a Building Permit. Contact Tim Beasley at (919) 996-2334 or timothy.beasley@raleighnc.gov for more information.
- Cross-connection control protection devices are required based on degree of health hazard involved as listed in Appendix-B of the Rules Governing Public Water Systems in North Carolina. These guidelines are the minimum requirements. The devices shall meet American Society of Sanitary Engineering (ASSE) standards or be on the University of Southern California approval list. The devices shall be installed and tested (both initial and periodic testing thereafter) in accordance with the manufacturer's recommendations or the local cross-connection control program, whichever is more stringent. Contact Joanie Helvey at (919) 996-5923 or joanie.helvey@raleighnc.gov for more information.

GENERAL NOTES

- CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
- STORM DRAINAGE INSTALLATION SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS AND SPECIFICATIONS.
- ALL STORM DRAINAGE INLETS SHALL BE INSTALLED WITH INLET PROTECTION. INLET PROTECTION SHALL NOT BE REMOVED UNTIL ALL UPSTREAM DRAINAGE AREA HAS BEEN STABILIZED AND REMOVAL HAS BEEN AUTHORIZED BY THE WAKE COUNTY ENVIRONMENTAL ENGINEER.

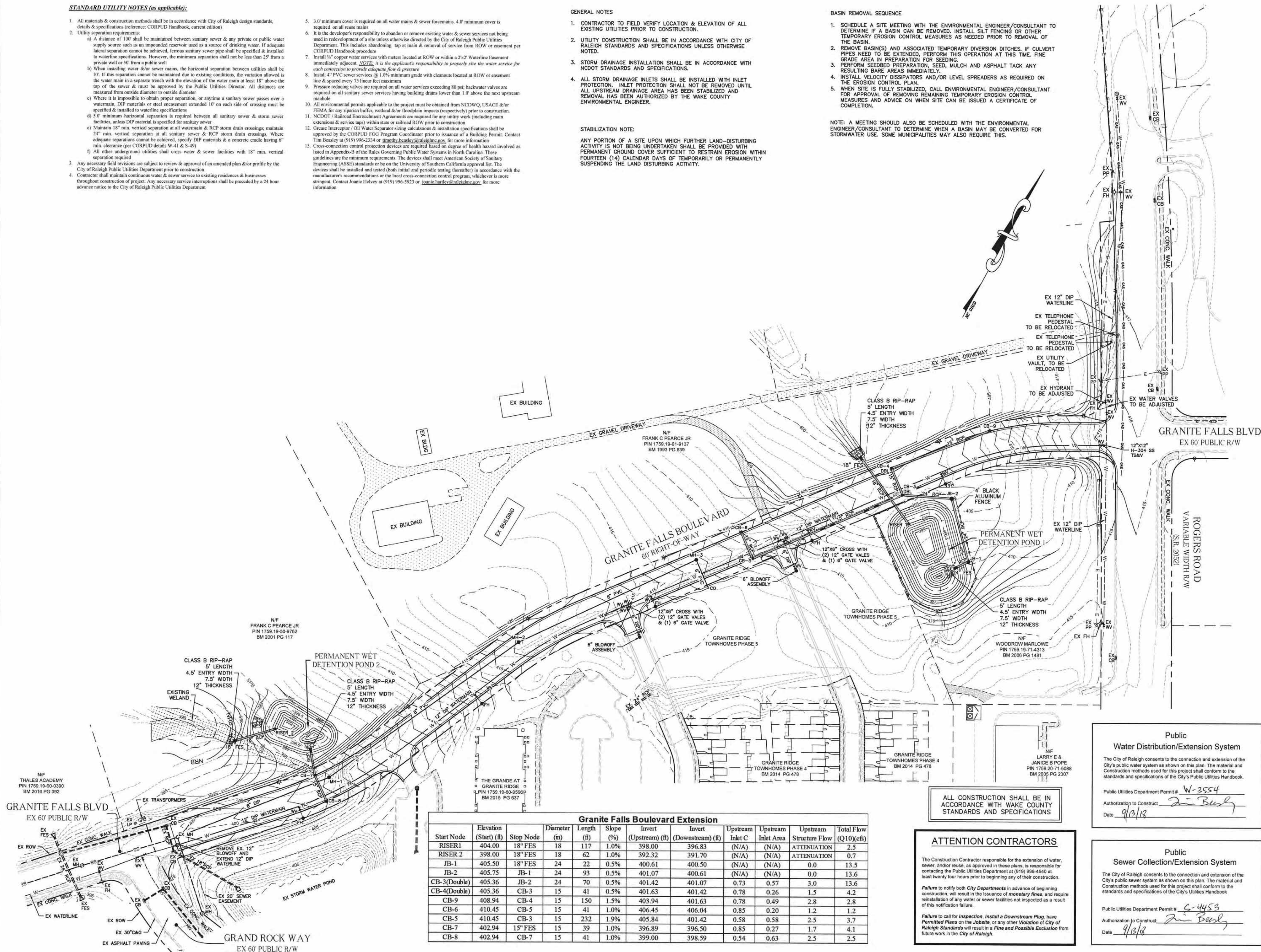
STABILIZATION NOTE:

ANY PORTION OF A SITE UPON WHICH FURTHER LAND-DISTURBING ACTIVITY IS NOT BEING UNDERTAKEN SHALL BE PROVIDED WITH PERMANENT GROUND COVER SUFFICIENT TO RESTRAIN EROSION WITHIN FOURTEEN (14) CALENDAR DAYS OF TEMPORARILY OR PERMANENTLY SUSPENDING THE LAND DISTURBING ACTIVITY.

BASIN REMOVAL SEQUENCE

- SCHEDULE A SITE MEETING WITH THE ENVIRONMENTAL ENGINEER/CONSULTANT TO DETERMINE IF A BASIN CAN BE REMOVED. INSTALL SILT FENCING OR OTHER TEMPORARY EROSION CONTROL MEASURES AS NEEDED PRIOR TO REMOVAL OF THE BASIN.
- REMOVE BASIN(S) AND ASSOCIATED TEMPORARY DIVERSION DITCHES. IF CULVERT PIPES NEED TO BE EXTENDED, PERFORM THIS OPERATION AT THIS TIME. FINE GRADE AREA IN PREPARATION FOR SEEDING.
- PERFORM SEEDBED PREPARATION, SEED, MULCH AND ASPHALT TACK ANY RESULTING BARE AREAS IMMEDIATELY.
- INSTALL VELOCITY DISSIPATORS AND/OR LEVEL SPREADERS AS REQUIRED ON THE EROSION CONTROL PLAN.
- WHEN SITE IS FULLY STABILIZED, CALL ENVIRONMENTAL ENGINEER/CONSULTANT FOR APPROVAL OF REMOVING REMAINING TEMPORARY EROSION CONTROL MEASURES AND ADVISE ON WHEN SITE CAN BE ISSUED A CERTIFICATE OF COMPLETION.

NOTE: A MEETING SHOULD ALSO BE SCHEDULED WITH THE ENVIRONMENTAL ENGINEER/CONSULTANT TO DETERMINE WHEN A BASIN MAY BE CONVERTED FOR STORMWATER USE. SOME MUNICIPALITIES MAY ALSO REQUIRE THIS.



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and Land Surveyors

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GRANITE FALLS BOULEVARD ROADWAY EXTENSION

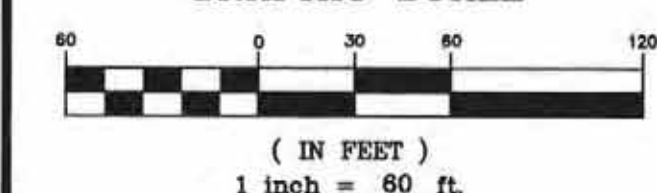
ROLESVILLE, NC 27571

TOWN OF ROLESVILLE
502 SOUTHTOWN CIRCLE
PO BOX 250
ROLESVILLE, NC 27571

LEGEND

- EX. SANITARY SEWER MANHOLE
- EX. WATER VALVE
- PROPOSED FIRE HYDRANT (FH)
- PROPOSED WATER VALVE (WV)
- PROPOSED WATER METER (WM)
- PROPOSED MANHOLE (MH)
- PROPOSED CLEANOUT (CO)
- PROPOSED WATER LINE
- PROPOSED SANITARY SEWER
- EXISTING GAS LINE
- PROPOSED CATCH BASIN
- PROPOSED STORM PIPE
- EXISTING NEUSE RIVER BUFFER
- EXISTING WETLAND

GRAPHIC SCALE



Public Water Distribution/Extension System

The City of Raleigh consents to the connection and extension of the City's public water system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

Public Utilities Department Permit # W-3554
Authorization to Construct [Signature]
Date 9/13/18

Public Sewer Collection/Extension System

The City of Raleigh consents to the connection and extension of the City's public sewer system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook.

Public Utilities Department Permit # S-4453
Authorization to Construct [Signature]
Date 9/13/18

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH WAKE COUNTY STANDARDS AND SPECIFICATIONS

ATTENTION CONTRACTORS

The Construction Contractor responsible for the extension of water, sewer, and/or reuse, as approved in these plans, is responsible for contacting the Public Utilities Department at (919) 996-4540 at least twenty-four hours prior to beginning any of their construction.

Failure to notify both City Departments in advance of beginning construction, will result in the issuance of monetary fines, and require installation of any water or sewer facilities not inspected as a result of this notification failure.

Failure to call for inspection, install a Downstream Plug, have Permitted Plans on the jobsite, or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.

Start Node	Elevation (Start) (ft)	Stop Node	Diameter (in)	Length (ft)	Slope (%)	Invert (Upstream) (ft)	Invert (Downstream) (ft)	Upstream Inlet C	Upstream Inlet Area	Upstream Structure Flow	Total Flow (Q10)(cfs)
RISER1	404.00	18" FES	18	117	1.0%	398.00	396.83	(N/A)	(N/A)	ATTENUATION	2.5
RISER2	398.00	18" FES	18	62	1.0%	392.32	391.70	(N/A)	(N/A)	ATTENUATION	0.7
JB-1	405.50	18" FES	24	22	0.5%	400.61	400.50	(N/A)	(N/A)	0.0	13.5
JB-2	405.75	JB-1	24	93	0.5%	401.07	400.61	(N/A)	(N/A)	0.0	13.6
CB-3(Double)	405.36	JB-2	24	70	0.5%	401.42	401.07	0.73	0.57	3.0	13.6
CB-4(Double)	405.36	CB-3	15	41	0.5%	401.63	401.42	0.78	0.26	1.5	4.2
CB-9	408.94	CB-4	15	150	1.5%	403.94	401.63	0.78	0.49	2.8	2.8
CB-6	410.45	CB-5	15	41	1.0%	406.45	406.04	0.85	0.20	1.2	1.2
CB-5	410.45	CB-3	15	232	1.9%	405.84	401.42	0.58	0.58	2.5	3.7
CB-7	402.94	15" FES	15	39	1.0%	396.89	396.50	0.85	0.27	1.7	4.1
CB-8	402.94	CB-7	15	41	1.0%	399.00	398.59	0.54	0.63	2.5	2.5

Granite Falls Boulevard Extension											
Start Node	Elevation (Start) (ft)	Stop Node	Diameter (in)	Length (ft)	Slope (%)	Invert (Upstream) (ft)	Invert (Downstream) (ft)	Upstream Inlet C	Upstream Inlet Area	Upstream Structure Flow	Total Flow (Q10)(cfs)
RISER1	404.00	18" FES	18	117	1.0%	398.00	396.83	(N/A)	(N/A)	ATTENUATION	2.5
RISER 2	398.00	18" FES	18	62	1.0%	392.32	391.70	(N/A)	(N/A)	ATTENUATION	0.7
JB-1	405.50	18" FES	24	22	0.5%	400.61	400.50	(N/A)	(N/A)	0.0	13.5
JB-2	405.75	JB-1	24	93	0.5%	401.07	400.61	(N/A)	(N/A)	0.0	13.6
CB-3(Double)	405.36	JB-2	24	70	0.5%	401.42	401.07	0.73	0.57	3.0	13.6
CB-4(Double)	405.36	CB-3	15	41	0.5%	401.63	401.42	0.78	0.26	1.5	4.2
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CB-6	410.45	CB-5	15	41	1.0%	406.45	406.04	0.85	0.20	1.2	1.2
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GENERAL NOTES

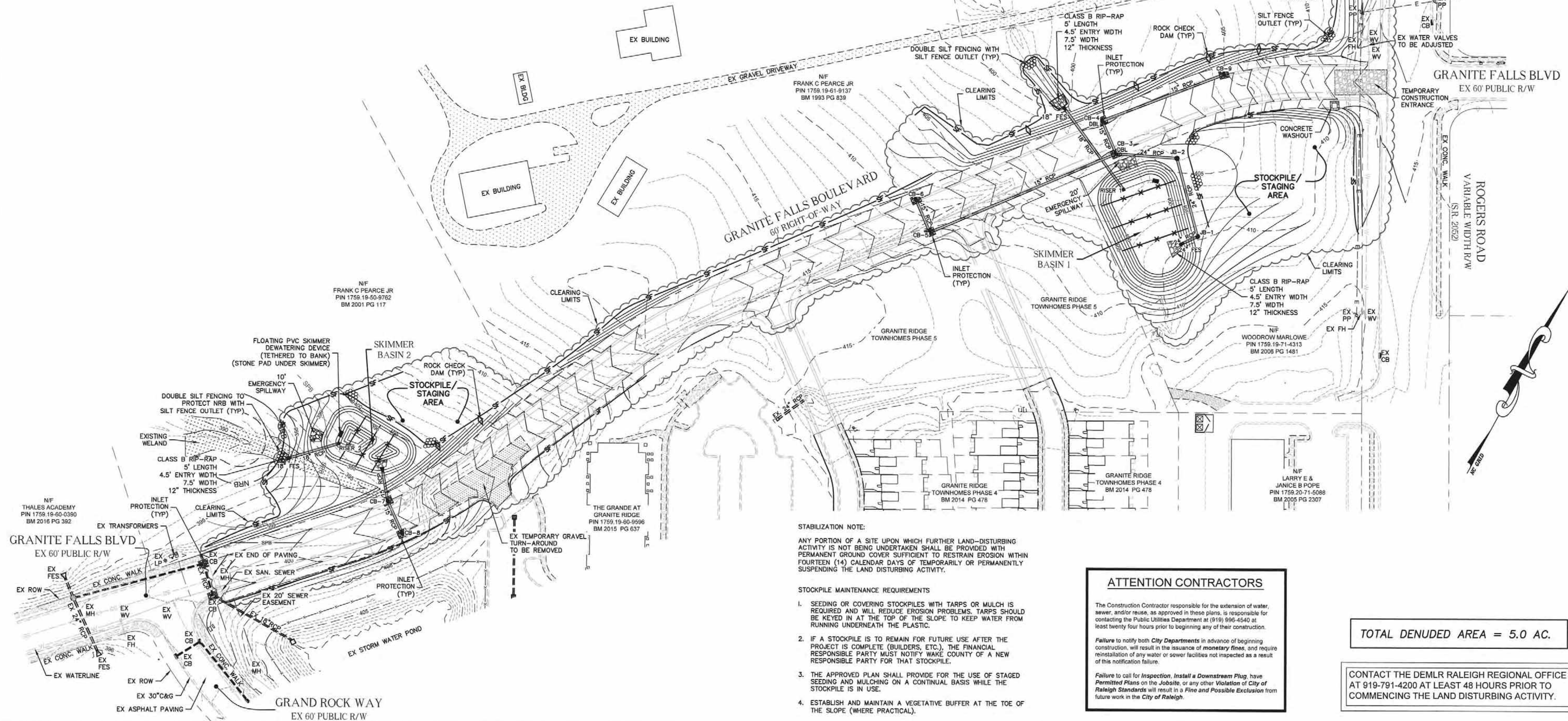
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- ALL STORM DRAINAGE INLETS SHALL BE INSTALLED WITH INLET PROTECTION. INLET PROTECTION SHALL NOT BE REMOVED UNTIL ALL UPSTREAM DRAINAGE AREA HAS BEEN STABILIZED AND REMOVAL HAS BEEN AUTHORIZED BY THE WAKE COUNTY ENVIRONMENTAL ENGINEER.

TYPICAL MAINTENANCE PLAN:

- ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
- SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES APPROXIMATELY 0.5 FT DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.
- ALL SEEDED AREAS WILL BE FERTILIZED, RESEED AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE EROSION CONTROL PLAN AND NPDES GROUND STABILIZATION PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

PHASE TWO CONSTRUCTION SEQUENCE

- BEGIN GRADING STREETS & RIGHT-OF-WAYS AND INSTALL STORM SEWER AS SHOWN. PROTECT INLETS WITH BLOCK AND GRAVEL INLET PROTECTION, INSTALL AND MAINTAIN RIPRAP PADS AT PIPE OUTLETS.
- AS ROADSIDE DITCHES ARE CONSTRUCTED, INSTALL ROCK CHECK DAMS AS SHOWN AND STABILIZE WITH SEED.
- INSTALL CONCRETE WASHOUT AREA NEAR SOUTHEAST CORNER OF ROGERS AND GRANITE FALLS.
- COMPLETE GRADING REMAINDER OF SITE AND STABILIZE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, STONE, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDED AREAS PER DWG REQUIREMENTS.
- CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, CALL 919-791-4200 FOR AN INSPECTION BY THE ENVIRONMENTAL ENGINEER.
- IF SITE IS APPROVED, REMOVE TEMPORARY CONSTRUCTION ENTRANCE, SILT FENCE, & INLET PROTECTION (AND BRING TO FINAL GRADE). SEED OUT OR STABILIZE ANY RESULTING BARE AREAS. DO NOT REMOVE SILT FENCE AT DISCHARGE POINTS OR BELOW POND UNTIL ALL AREAS ARE COMPLETELY STABILIZED.
- IF NECESSARY, DEWATER BASINS UTILIZING SILT BAGS AND MUCK OUT IN PREPARATION TO CONVERT TO PERMANENT WET DETENTION PONDS PER STORMWATER PLAN AND DETAIL. STABILIZE WITH GRASS AND VEGETATION AS AREAS ARE BROUGHT UP TO FINAL GRADE.
- ONCE REMAINING AREAS AREA STABILIZED, REMOVE SILT FENCE AT OUTLET AND
- CALL THE DEMLR RALEIGH REGIONAL OFFICE AT 919-791-4200 FOR A FINAL SITE INSPECTION BY THE ENVIRONMENTAL ENGINEER, OBTAIN A CERTIFICATE OF COMPLETION.



STABILIZATION NOTE:

ANY PORTION OF A SITE UPON WHICH FURTHER LAND-DISTURBING ACTIVITY IS NOT BEING UNDERTAKEN SHALL BE PROVIDED WITH PERMANENT GROUND COVER SUFFICIENT TO RESTRAIN EROSION WITHIN FOURTEEN (14) CALENDAR DAYS OF TEMPORARILY OR PERMANENTLY SUSPENDING THE LAND DISTURBING ACTIVITY.

STOCKPILE MAINTENANCE REQUIREMENTS

- SEEDING OR COVERING STOCKPILES WITH TARPS OR MULCH IS REQUIRED AND WILL REDUCE EROSION PROBLEMS. TARPS SHOULD BE KEPT IN AT THE TOP OF THE SLOPE TO KEEP WATER FROM RUNNING UNDERNEATH THE PLASTIC.
- IF A STOCKPILE IS TO REMAIN FOR FUTURE USE AFTER THE PROJECT IS COMPLETE (BUILDERS, ETC.), THE FINANCIAL RESPONSIBLE PARTY MUST NOTIFY WAKE COUNTY OF A NEW RESPONSIBLE PARTY FOR THAT STOCKPILE.
- THE APPROVED PLAN SHALL PROVIDE FOR THE USE OF STAGED SEEDING AND MULCHING ON A CONTINUOUS BASIS WHILE THE STOCKPILE IS IN USE.
- ESTABLISH AND MAINTAIN A VEGETATIVE BUFFER AT THE TOE OF THE SLOPE (WHERE PRACTICAL).

ATTENTION CONTRACTORS

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Failure to call for inspection, install a Downstream Plug, have Permitted Plans on the Jobsite, or any other Violation of City of Raleigh Standards will result in a Fine and Possible Exclusion from future work in the City of Raleigh.

TOTAL DENUDED AREA = 5.0 AC.

CONTACT THE DEMLR RALEIGH REGIONAL OFFICE AT 919-791-4200 AT LEAST 48 HOURS PRIOR TO COMMENCING THE LAND DISTURBING ACTIVITY.



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Project

**GRANITE FALLS
BOULEVARD
ROADWAY
EXTENSION**

ROLESVILLE, NC 27571

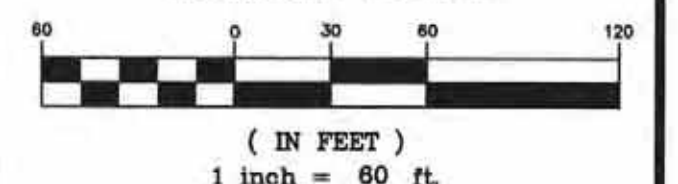
Client

TOWN OF ROLESVILLE
502 SOUTHTOWN CIRCLE
PO BOX 250
ROLESVILLE, NC 27571

LEGEND

- PROPOSED CATCH BASIN
- PROPOSED DROP INLET
- PROPOSED STORM PIPE
- SILT FENCE OUTLET
- ROCK CHECK DAM
- LIMITS OF DISTURBANCE
- TEMPORARY SILT FENCING
- TEMPORARY DIVERSION DITCH
- NRB 50' NEUSE RIVER BUFFER
- SPB 100' TOWN OF ROLESVILLE "STREAM PROTECTION BUFFER"
- EXISTING WETLAND

GRAPHIC SCALE



Drawing Title

EROSION CONTROL PHASE TWO

Revisions

Date	Description	By
8-10-18	PER WAKE COUNTY, ROLESVILLE, CITY OF RALEIGH, NCDDOT, & NCDDOT COMMENTS	LEH

JAECO #: 830-02

Drawn By: LEH

Checked By: JAE

Date Issued: 08-31-2017

CE-8

TEMPORARY/PERMANENT SEEDBED PREPARATION:

1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
2. RIP THE ENTIRE AREA TO SIX INCHES DEEP.
3. REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
4. APPLY AGRICULTURAL LIME, FERTILIZER AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE MIXTURE BELOW).
5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOR TO SIX INCHES DEEP.
6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
8. INSPECT ALL SEEDING AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE MORE THAN 60% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
9. CONSULT S&C ENVIRONMENTAL ENGINEERS ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.

TEMPORARY SEEDING SCHEDULE

SEEDING DATES		SEEDING MIXTURE	
		SPECIES	RATE
LATE WINTER AND EARLY SPRING	JAN 1 - MAY 1	RYE (GRAIN)	120 LB/AC
		KOBE ANNUAL LESPEDEZA	50 LB/AC
SUMMER	MAY 1 - AUG 15	GERMAN MILLET	40 LB/AC
FALL	AUG 15 - DEC 30	RYE (GRAIN)	120 LB/AC

SOIL AMENDMENTS:
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/AC GROUND AGRICULTURAL LIMESTONE AND 750 LB/AC 10-10-10 FERTILIZER.
* IF SEEDING IS IN FALL, APPLY 1,000 LB/AC 10-10-10 FERTILIZER.

MULCH:
APPLY 4,000 LB/AC STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT AT A TACK RATE OF 400 GAL/AC, NETTING, OR A MULCH ANCHORING TOOL.

MAINTENANCE:
RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.
* IF SEEDING IS IN FALL, REPAIR AND RE-FERTILIZE DAMAGED AREAS IMMEDIATELY. TOPRESS WITH 50 LB/AC OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/AC KOBE LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

PERMANENT SEEDING SCHEDULE *

SEEDING MIXTURE			
CONTRACTOR TO CHOOSE ONE (1) NURSE AND ONE (1) PRIMARY STABILIZATION MEASURE BASED ON AVAILABILITY OR AN APPROVED ALTERNATE			
NURSE CROP	SPECIES	RATE	FERTILIZER/LIMESTONE LBS/AC
	RYE (GRAIN)	40 LB/AC	BY SOIL TEST
	GERMAN MILLET	10 LB/AC	BY SOIL TEST
PRIMARY STABILIZATION	KY 31 TALL FESCUE	100 LB/AC	BY SOIL TEST
	10% COMMON BERMUDA	380 LB/AC	BY SOIL TEST

* SEED OR SOD MAY BE UTILIZED FOR PERMANENT STABILIZATION AT CONTRACTOR DISCRETION

NEW STABILIZATION TIMEFRAMES (EFFECTIVE AUG 3, 2011)

SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HOW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE LESS THAN 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HOW ZONES

TYPICAL MAINTENANCE PLAN:

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CHECKED FOR STABILITY AND OPERATION WITHIN 24 HOURS OF THE END OF A STORM WITH A RAINFALL AMOUNT OF 0.5 INCHES OR GREATER BUT IN NO CASE LESS THAN ONCE EVERY WEEK. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
2. SEDIMENT WILL BE REMOVED FROM BEHIND THE SEDIMENT FENCE WHEN IT BECOMES APPROXIMATELY 0.5 FT DEEP AT THE FENCE. THE SEDIMENT FENCE WILL BE REPAIRED AS NECESSARY TO MAINTAIN A BARRIER.
3. ALL SEEDING AREAS WILL BE FERTILIZED, RESEEDING AS NECESSARY, AND MULCHED ACCORDING TO SPECIFICATIONS IN THE EROSION CONTROL PLAN AND NPDES GROUND STABILIZATION PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER.

SELF INSPECTION NOTIFICATION:

THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS TOOK EFFECT OCTOBER 1, 2010. THE SELF-INSPECTION PROGRAM IS SEPARATE FROM THE WEEKLY SELF MONITORING PROGRAM OF THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. THE FOCUS OF THE SELF-INSPECTION REPORT IS THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES ACCORDING TO THE APPROVED PLAN. THE INSPECTIONS MUST BE CONDUCTED AFTER EACH PHASE OF THE PROJECT, AND CONTINUED UNTIL PERMANENT GROUND COVER IS ESTABLISHED IN ACCORDANCE WITH NCGS 113A-54.1 AND 15A NCAC 4B.0131. THE SELF-INSPECTION FORM IS AVAILABLE AT THE FOLLOWING ADDRESS:

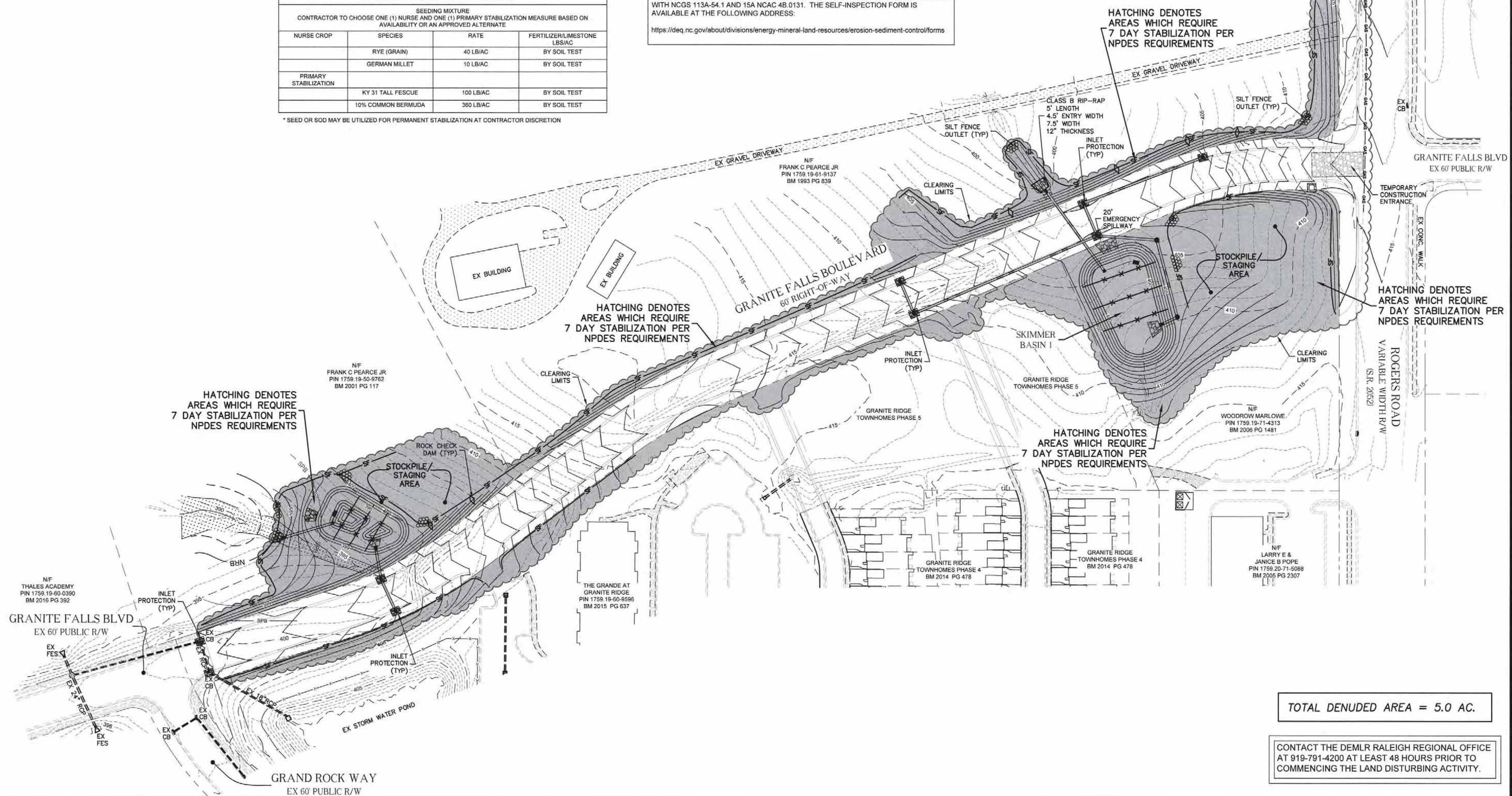
<https://deq.nc.gov/about/divisions/energy-mineral-land-resources/erosion-sediment-control/forms>

GENERAL NOTES

1. CONTRACTOR TO FIELD VERIFY LOCATION & ELEVATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. UTILITY CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED.
3. STORM DRAINAGE INSTALLATION SHALL BE IN ACCORDANCE WITH NCDOT STANDARDS AND SPECIFICATIONS.
4. ALL STORM DRAINAGE INLETS SHALL BE INSTALLED WITH INLET PROTECTION. INLET PROTECTION SHALL NOT BE REMOVED UNTIL ALL UPSTREAM DRAINAGE AREA HAS BEEN STABILIZED AND REMOVAL HAS BEEN AUTHORIZED BY THE WAKE COUNTY ENVIRONMENTAL ENGINEER.

STABILIZATION NOTE:

ANY PORTION OF A SITE UPON WHICH FURTHER LAND-DISTURBING ACTIVITY IS NOT BEING UNDERTAKEN SHALL BE PROVIDED WITH PERMANENT GROUND COVER SUFFICIENT TO RESTRAIN EROSION WITHIN FOURTEEN (14) CALENDAR DAYS OF TEMPORARILY OR PERMANENTLY SUSPENDING THE LAND DISTURBING ACTIVITY.



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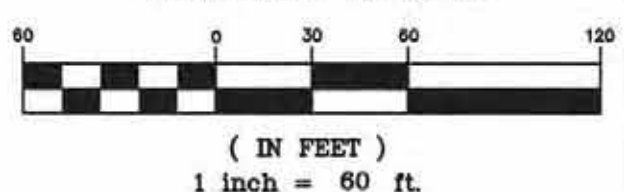
ROLESVILLE, NC 27571

TOWN OF ROLESVILLE
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PO BOX 250
ROLESVILLE, NC 27571

LEGEND

- PROPOSED CATCH BASIN
- PROPOSED DROP INLET
- PROPOSED STORM PIPE
- SILT FENCE OUTLET
- ROCK CHECK DAM
- LIMITS OF DISTURBANCE
- TEMPORARY SILT FENCING
- TEMPORARY DIVERSION DITCH
- 50' NEUSE RIVER BUFFER
- 100' TOWN OF ROLESVILLE "STREAM PROTECTION BUFFER"
- EXISTING WETLAND
- AREAS REQUIRING 7 DAY STABILIZATION

GRAPHIC SCALE

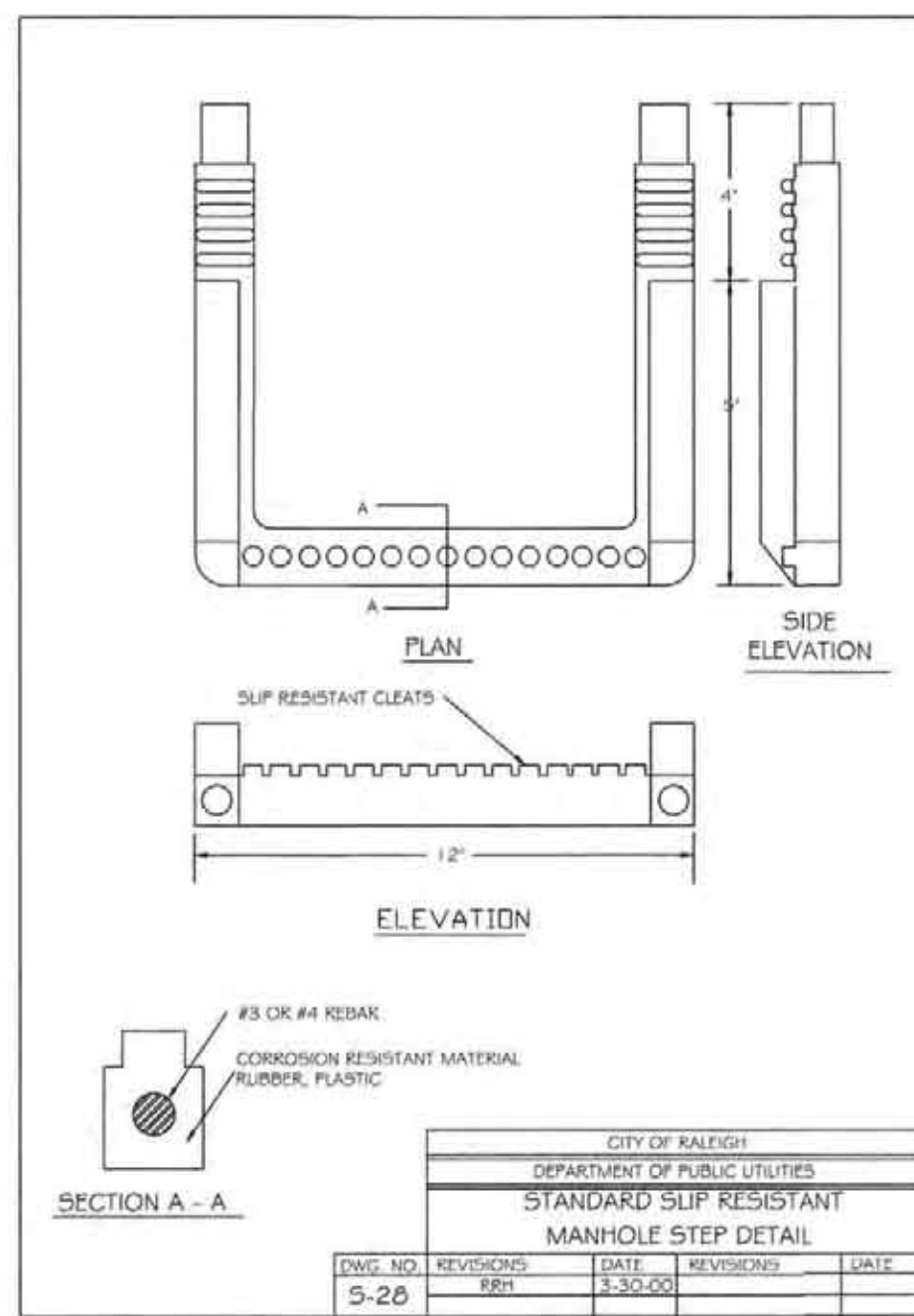
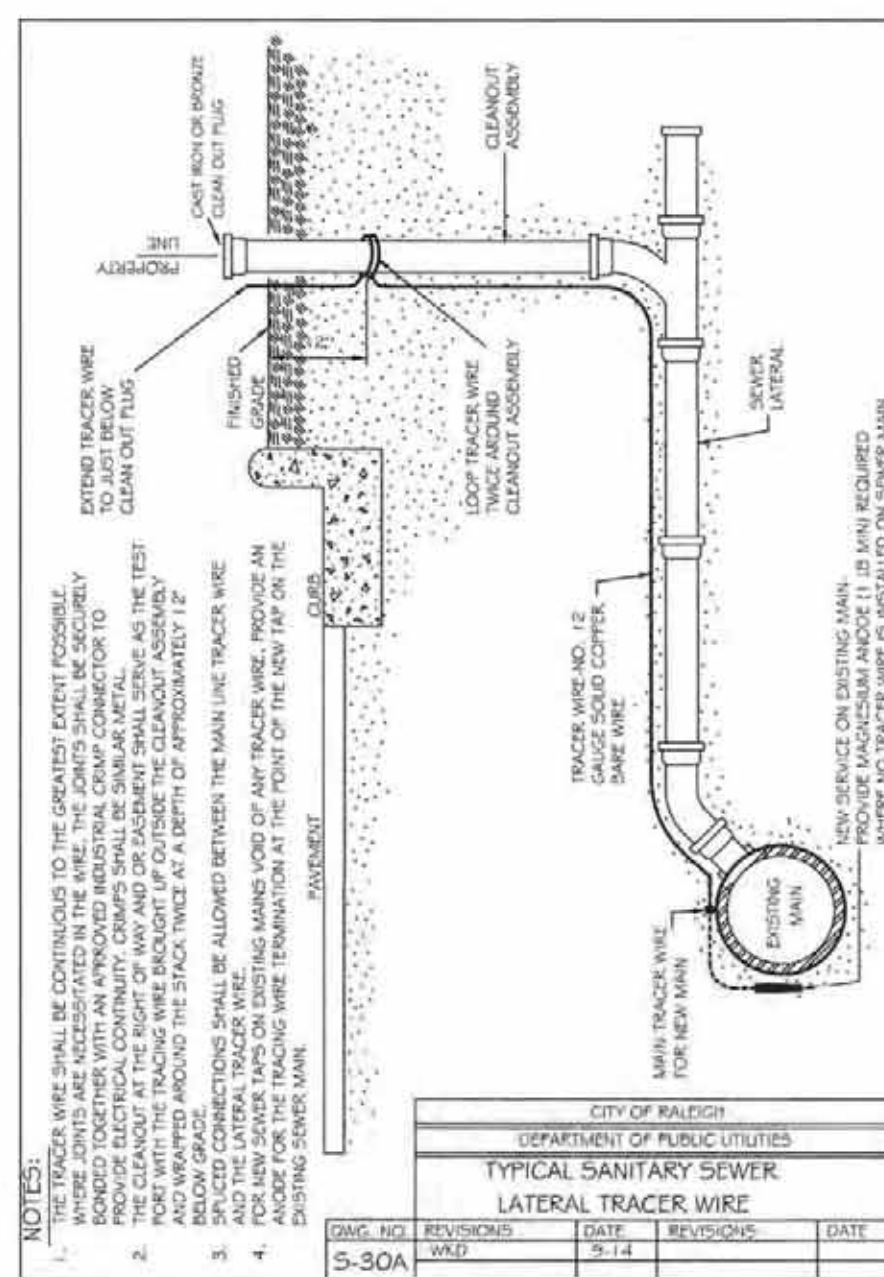
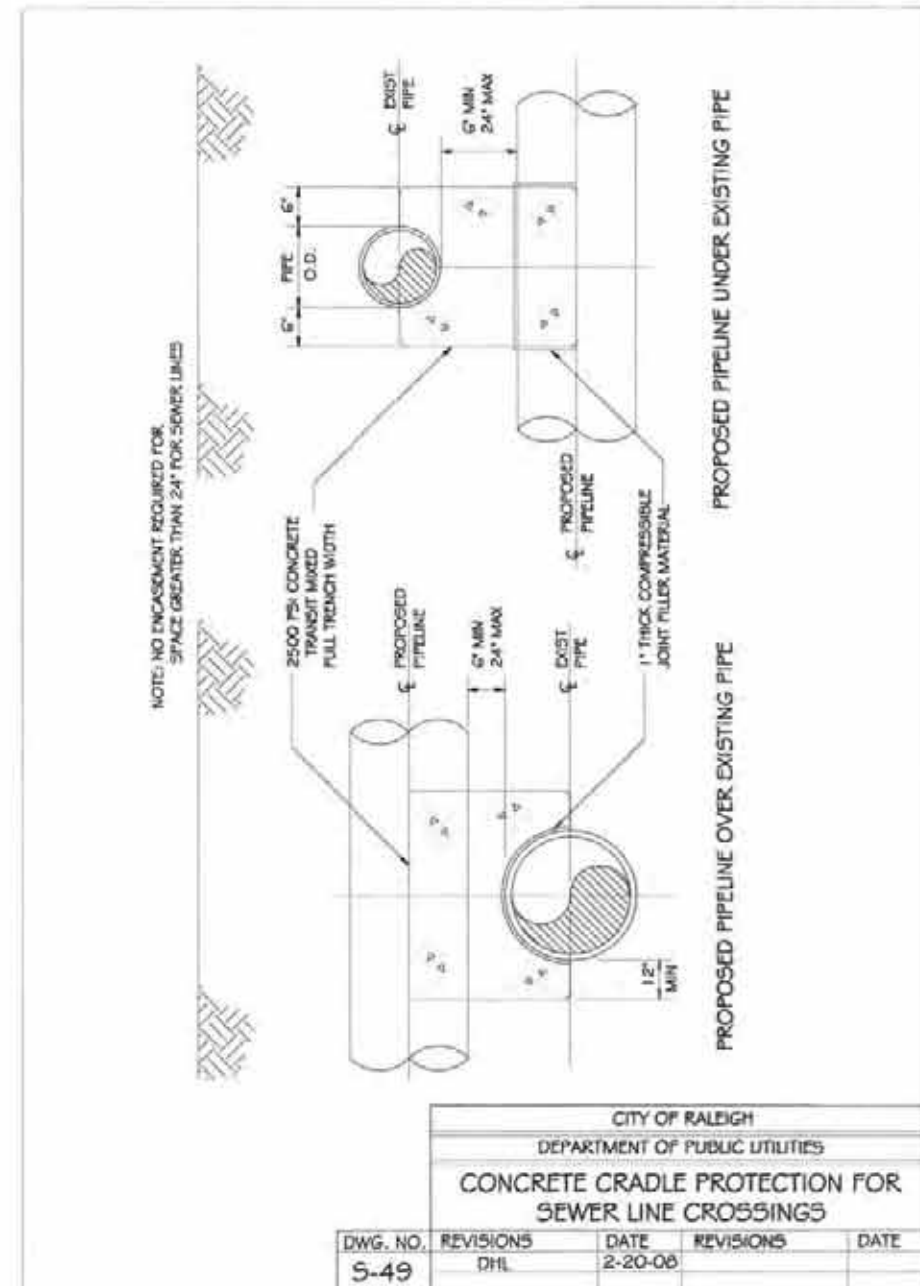
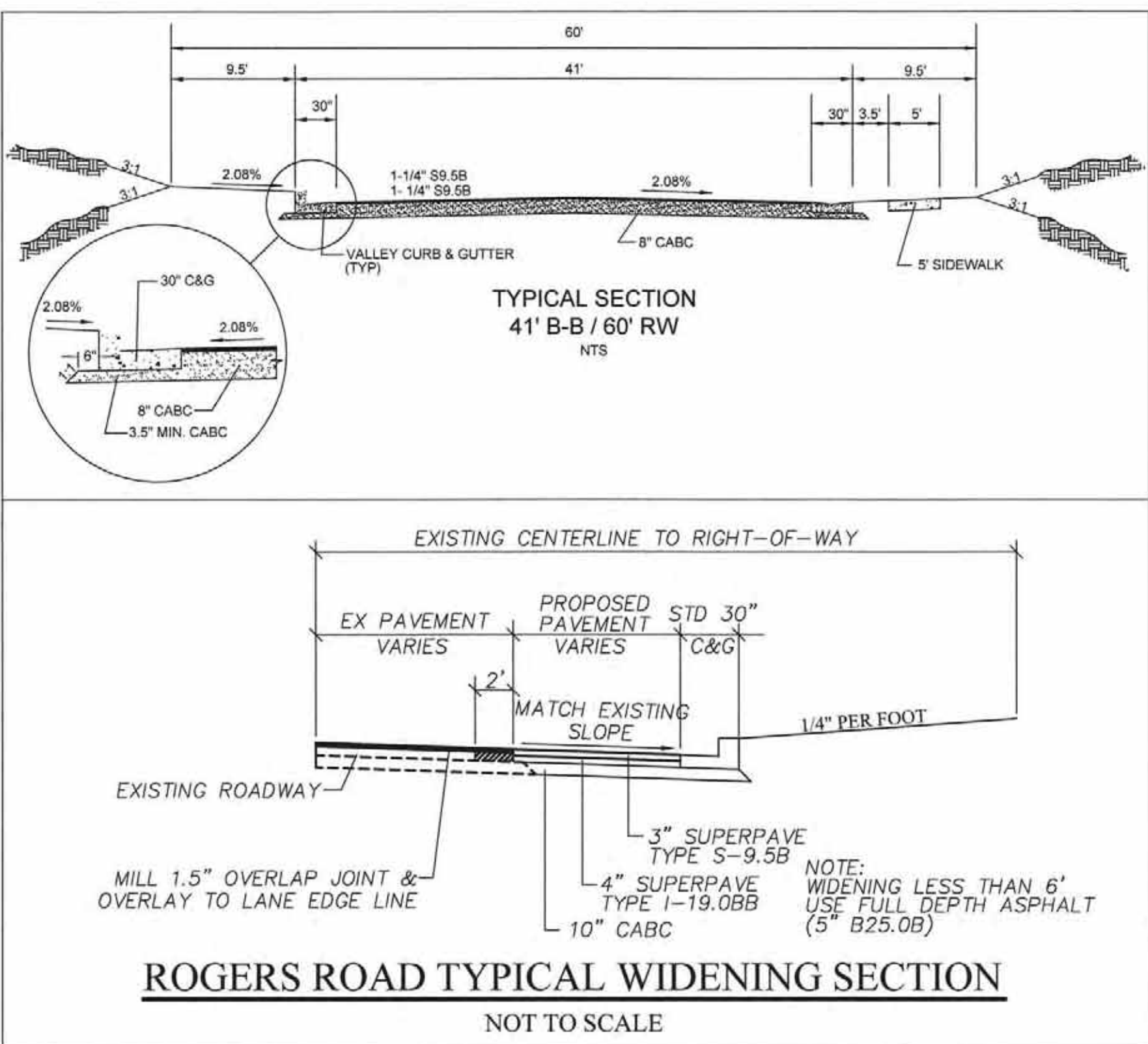


NPDES GROUND STABILIZATION PLAN

Date	Description	By
8-10-18	PER WAKE COUNTY, ROLESVILLE, CITY OF RALEIGH, NCDOT, & NCDCE COMMENTS	LEH

JAECO #: 830-02
Drawn By: LEH
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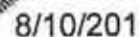
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E-mail: info@jaeco.com

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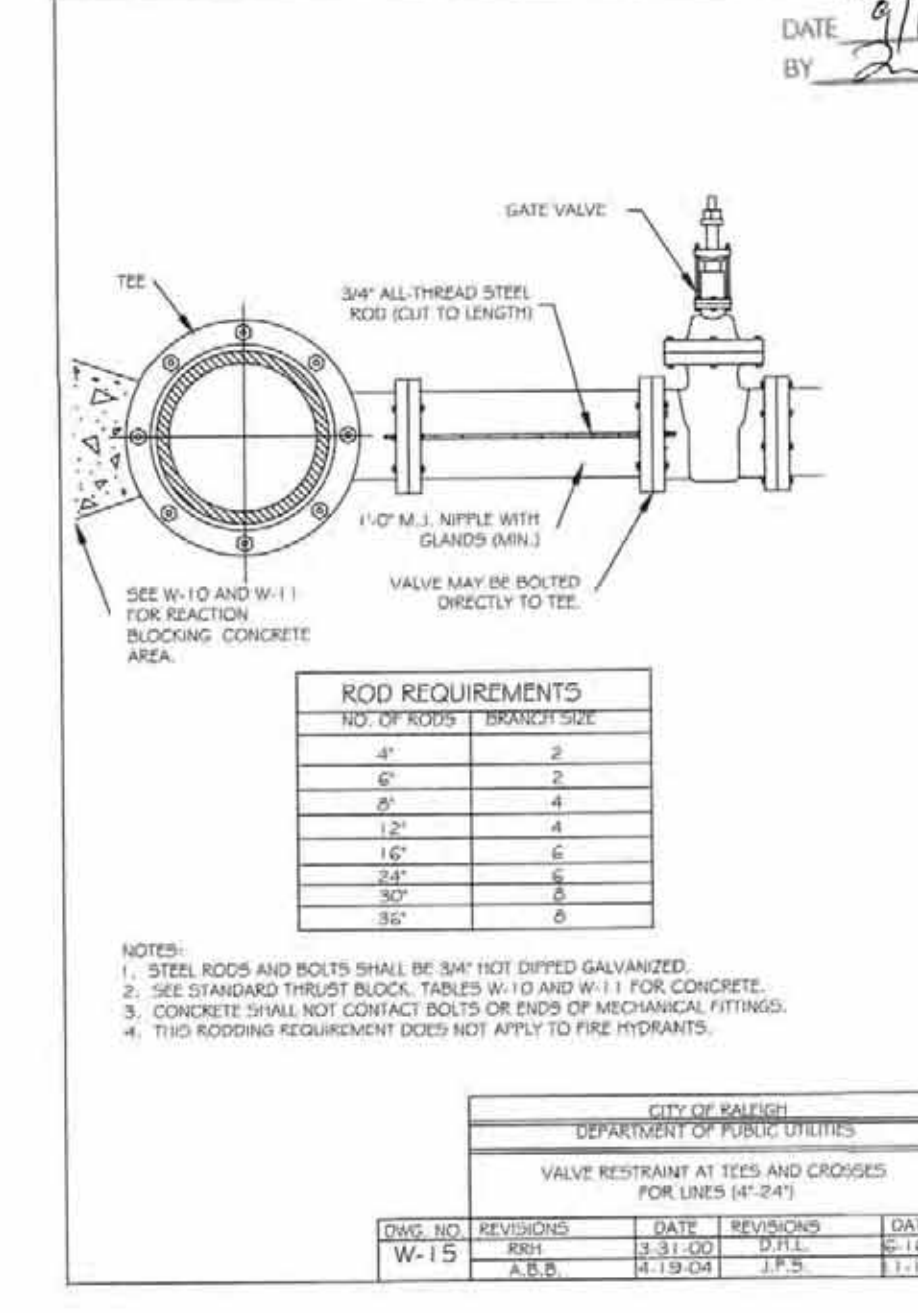
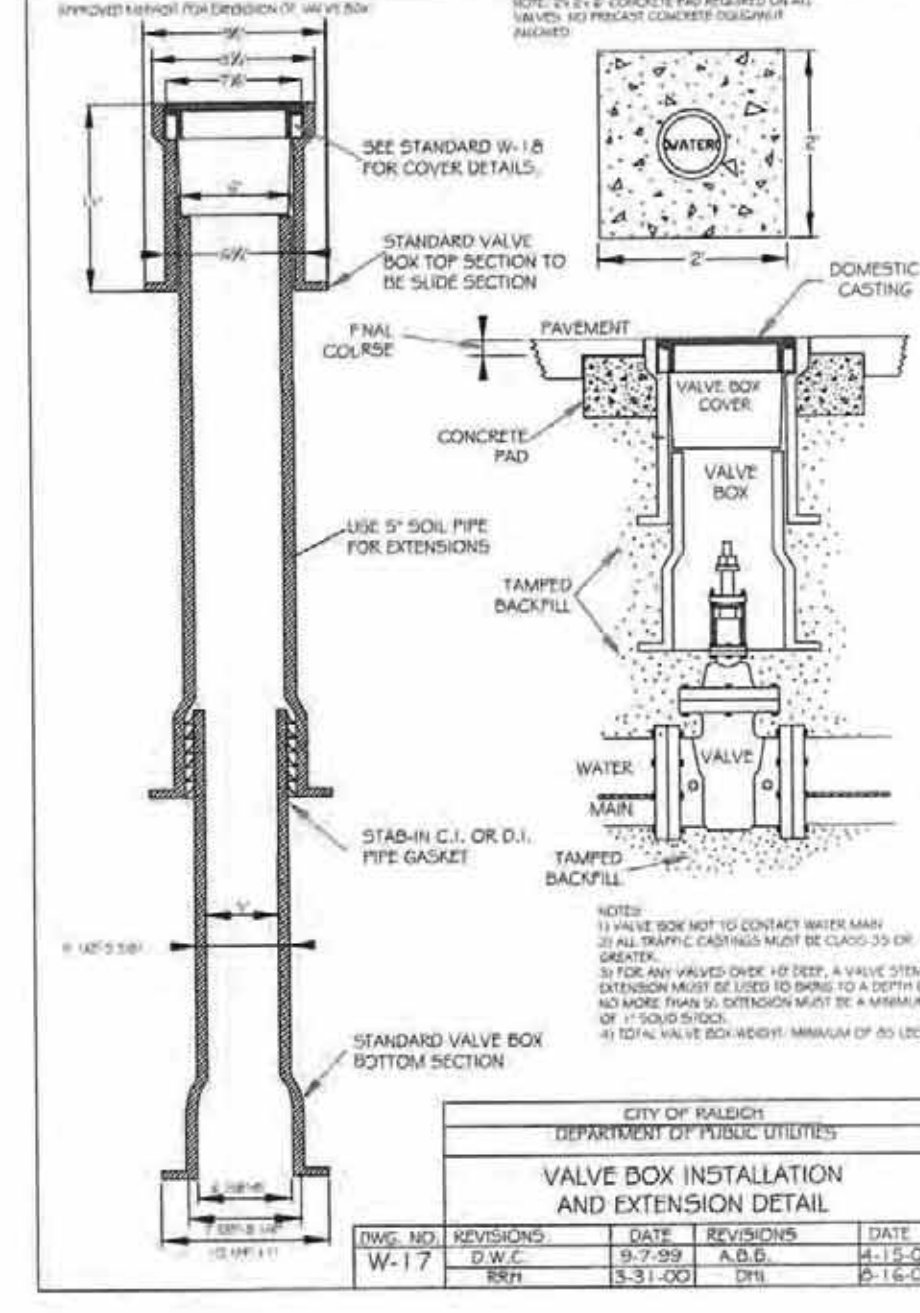
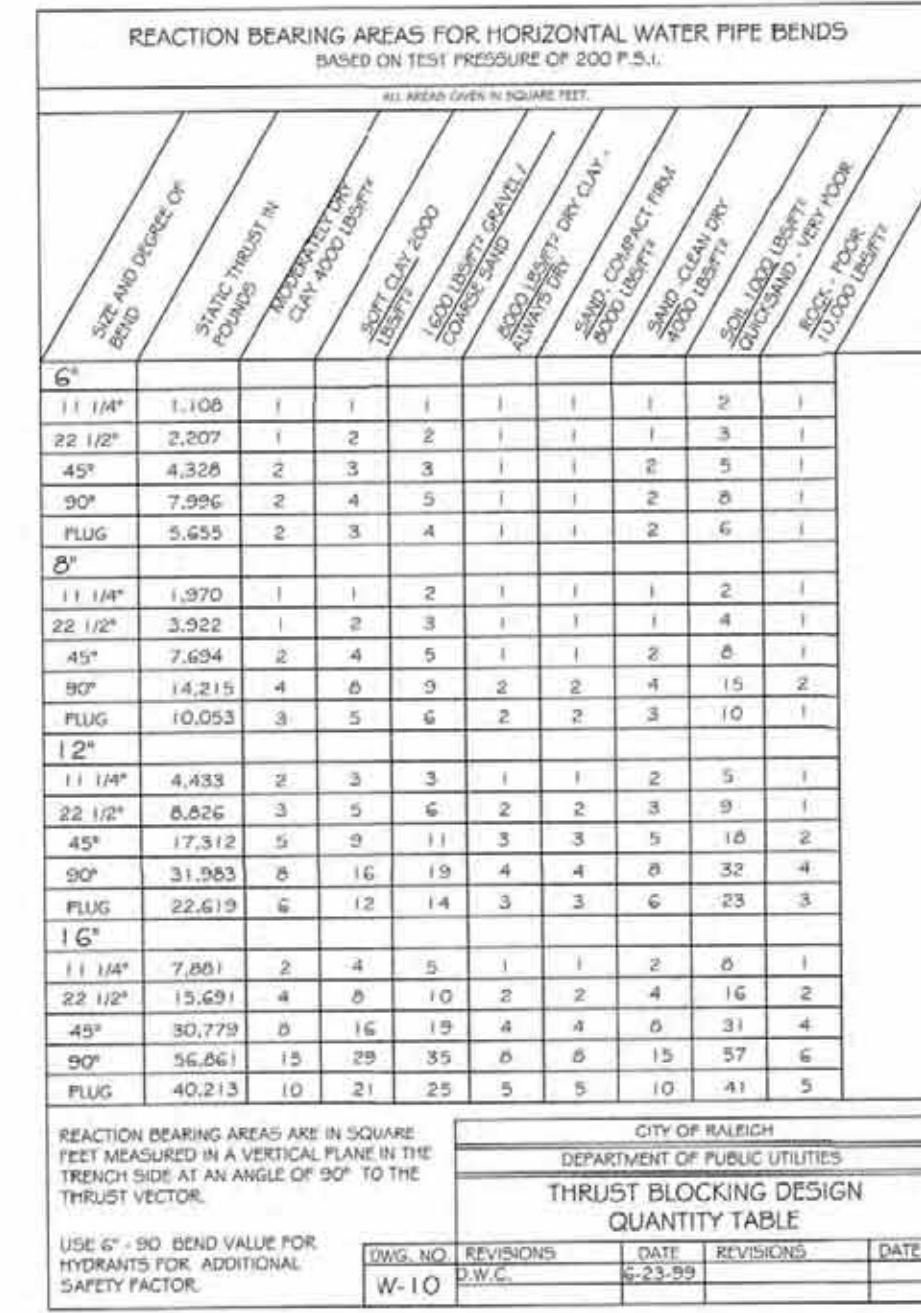
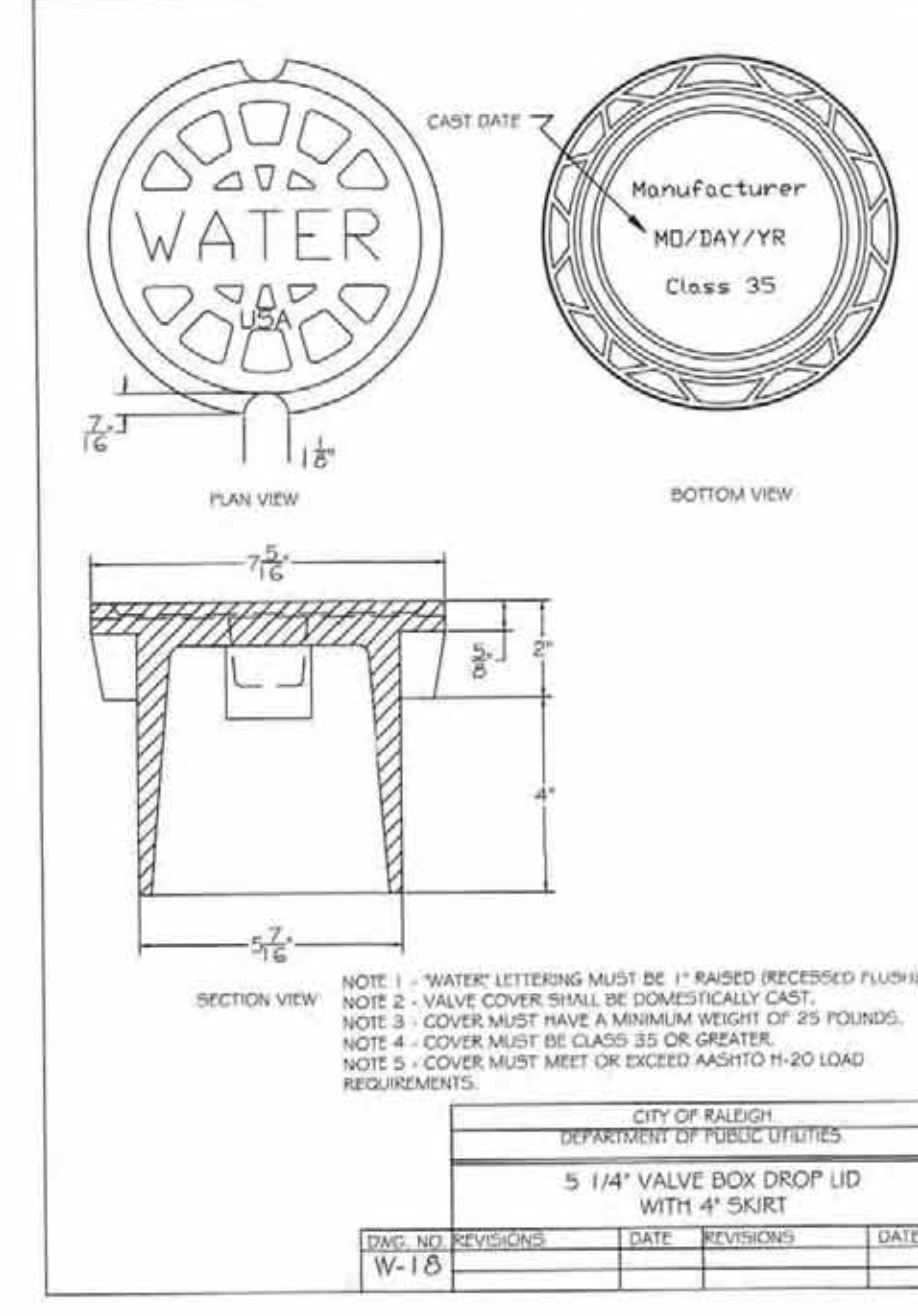
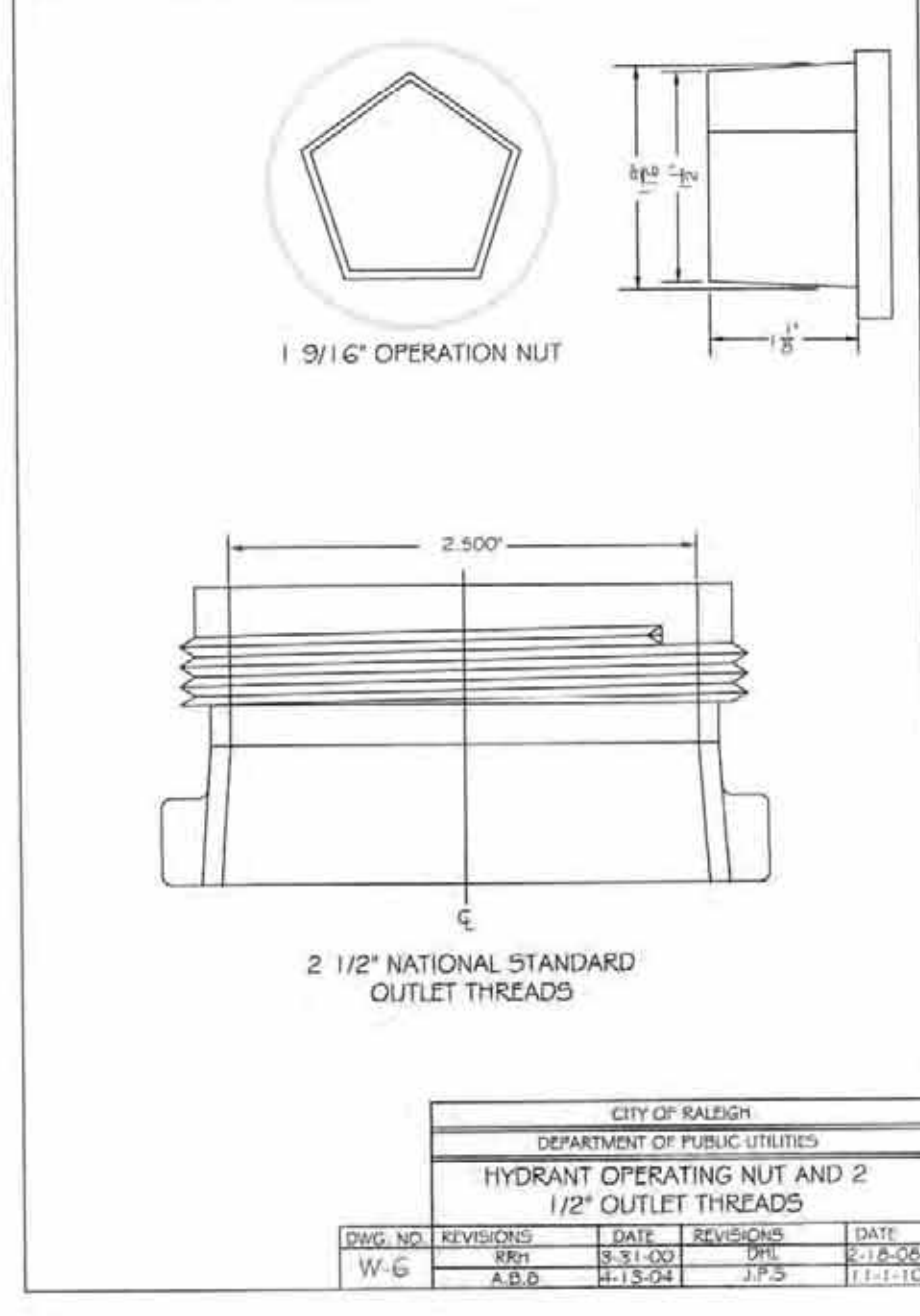
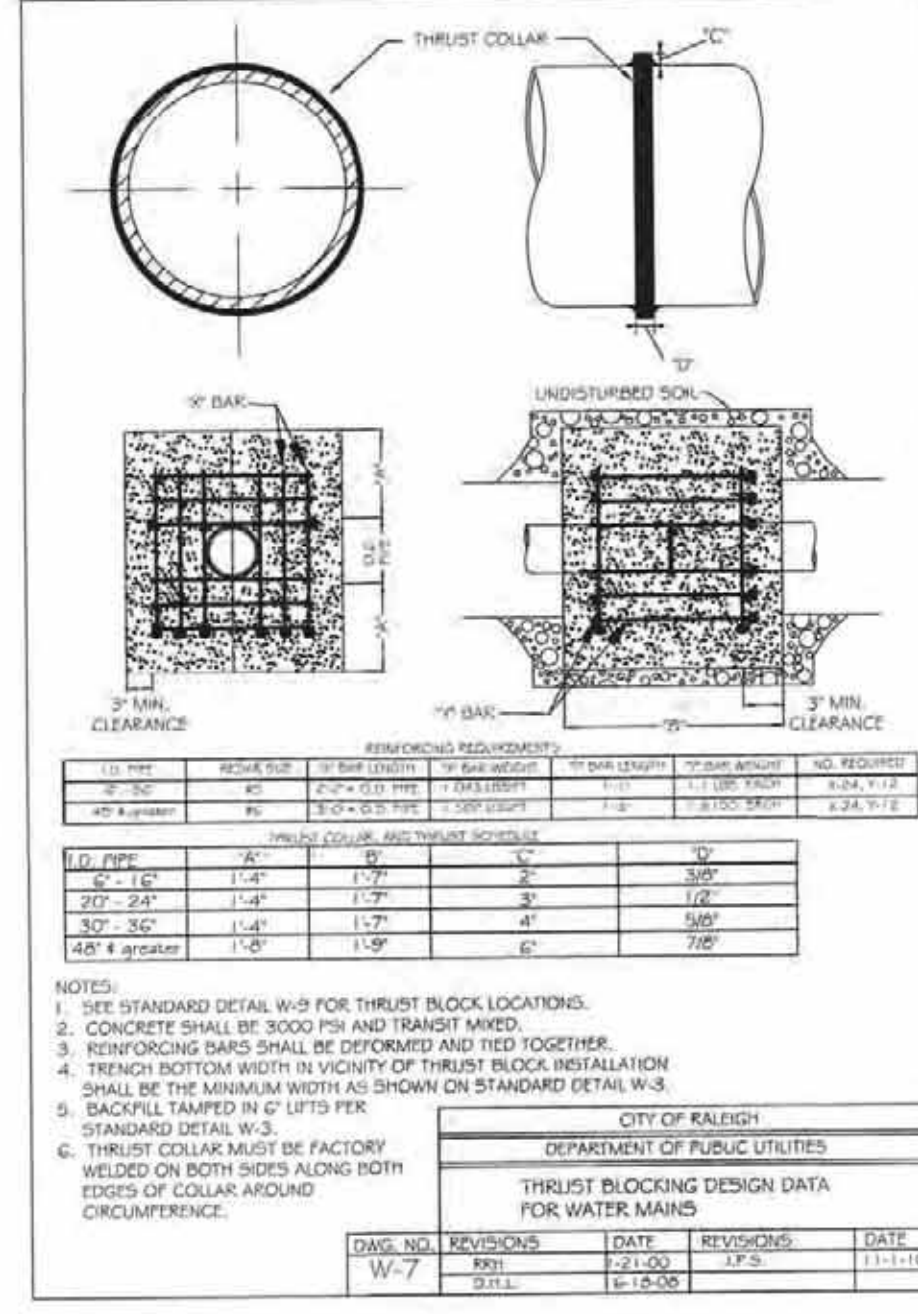
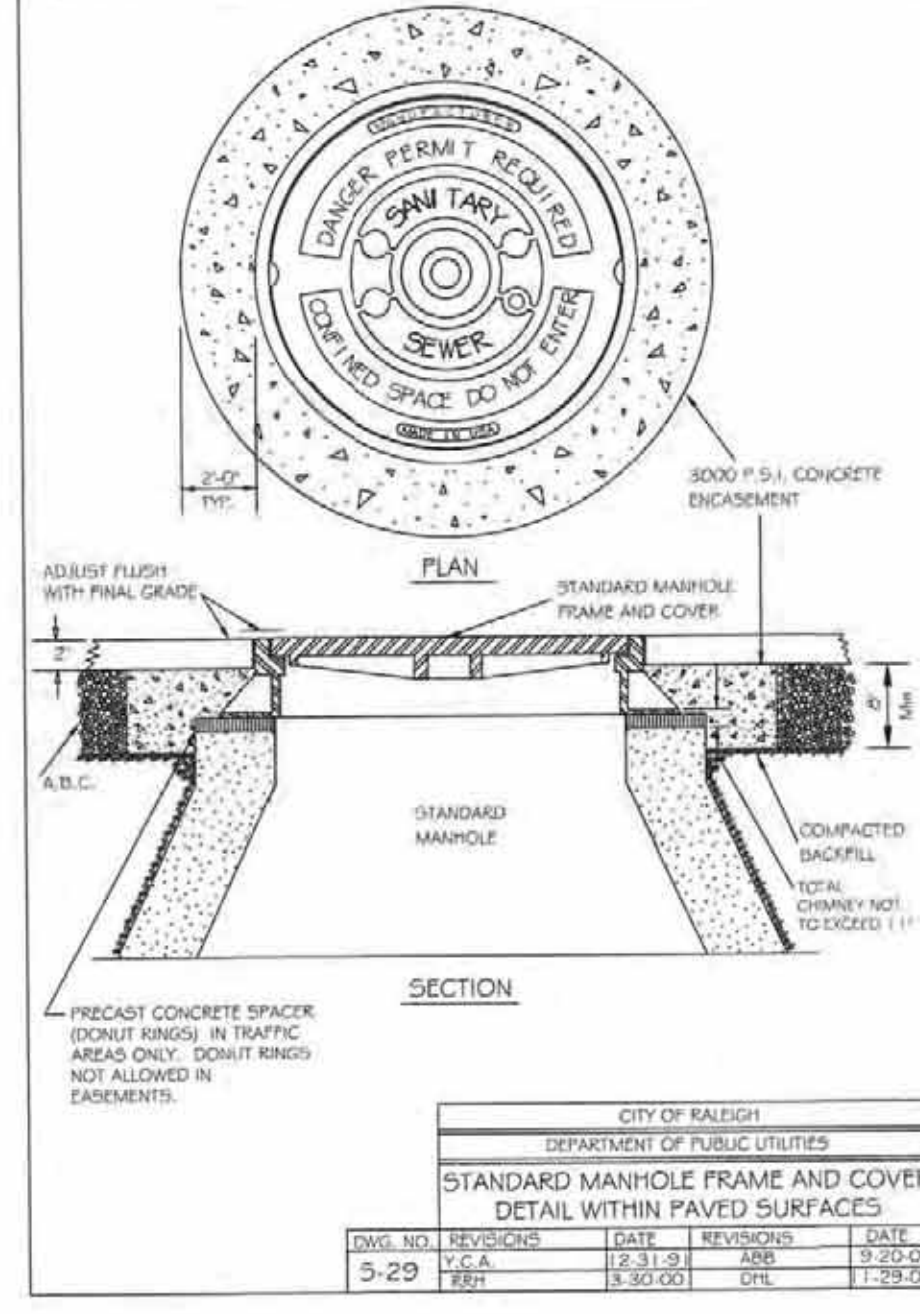
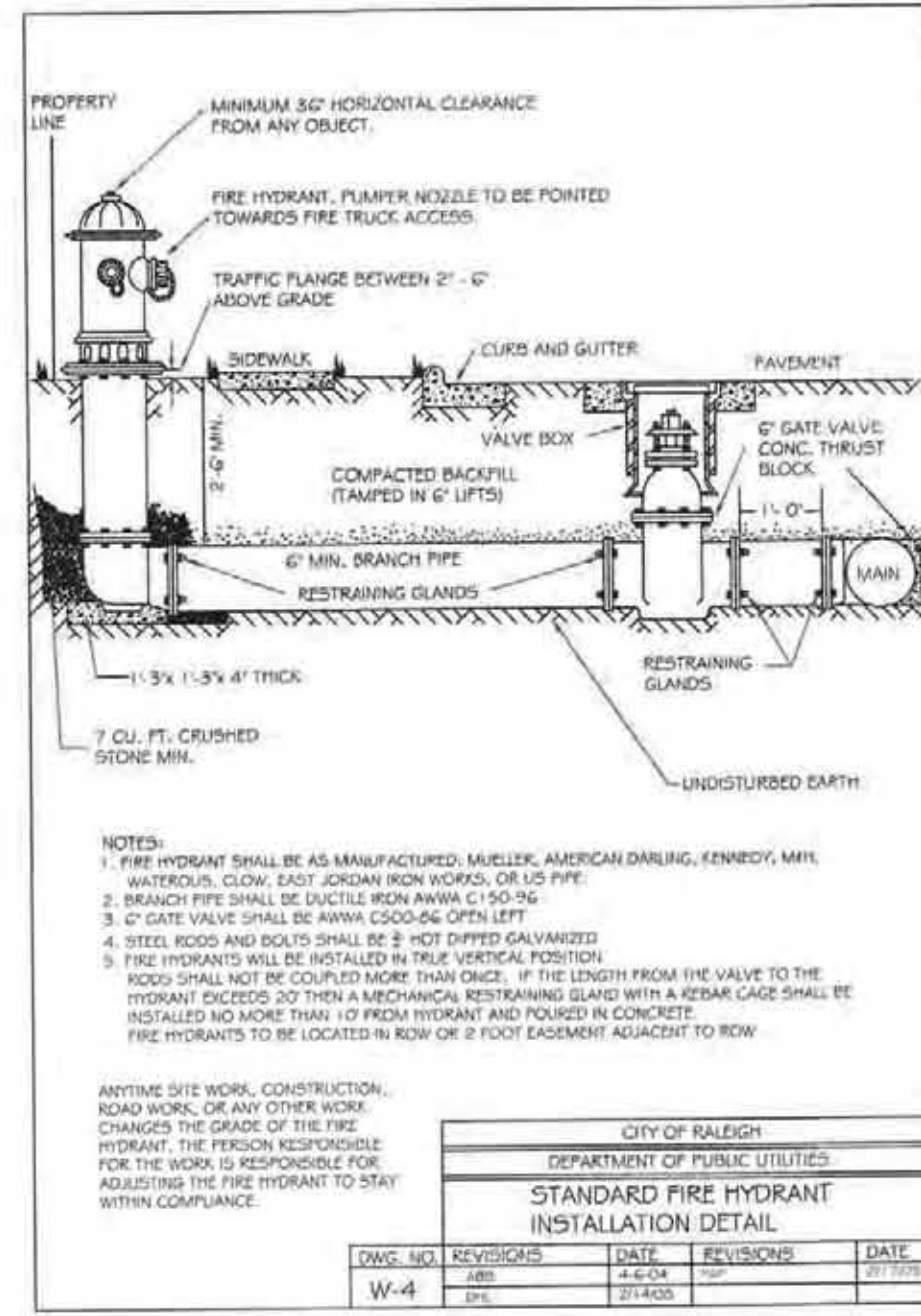
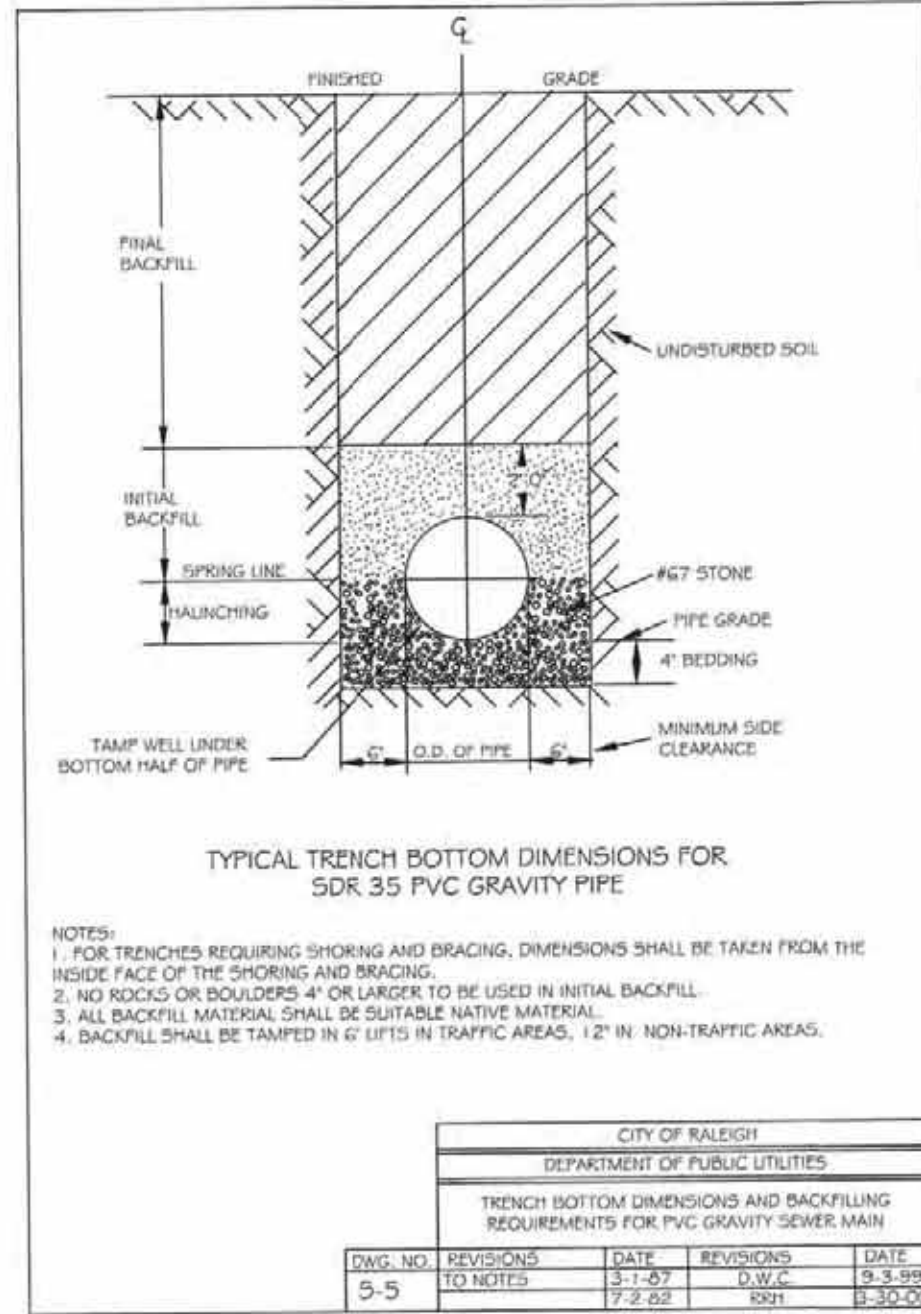
Reviewer

GRANITE FALLS
BOULEVARD
ROADWAY
EXTENSION

ROLESVILLE, NC 27571

Chloro

TOWN OF ROLESVILLE
502 SOUTHTOWN CIRCLE
PO BOX 250
ROLESVILLE, NC 27571



UTILITY DETAILS

Revisions		
Date	Description	By
8-10-18	PER WAKE COUNTY, ROLESVILLE, CITY OF RALEIGH, NCDOT, & NCDEQ COMMENTS	LEH

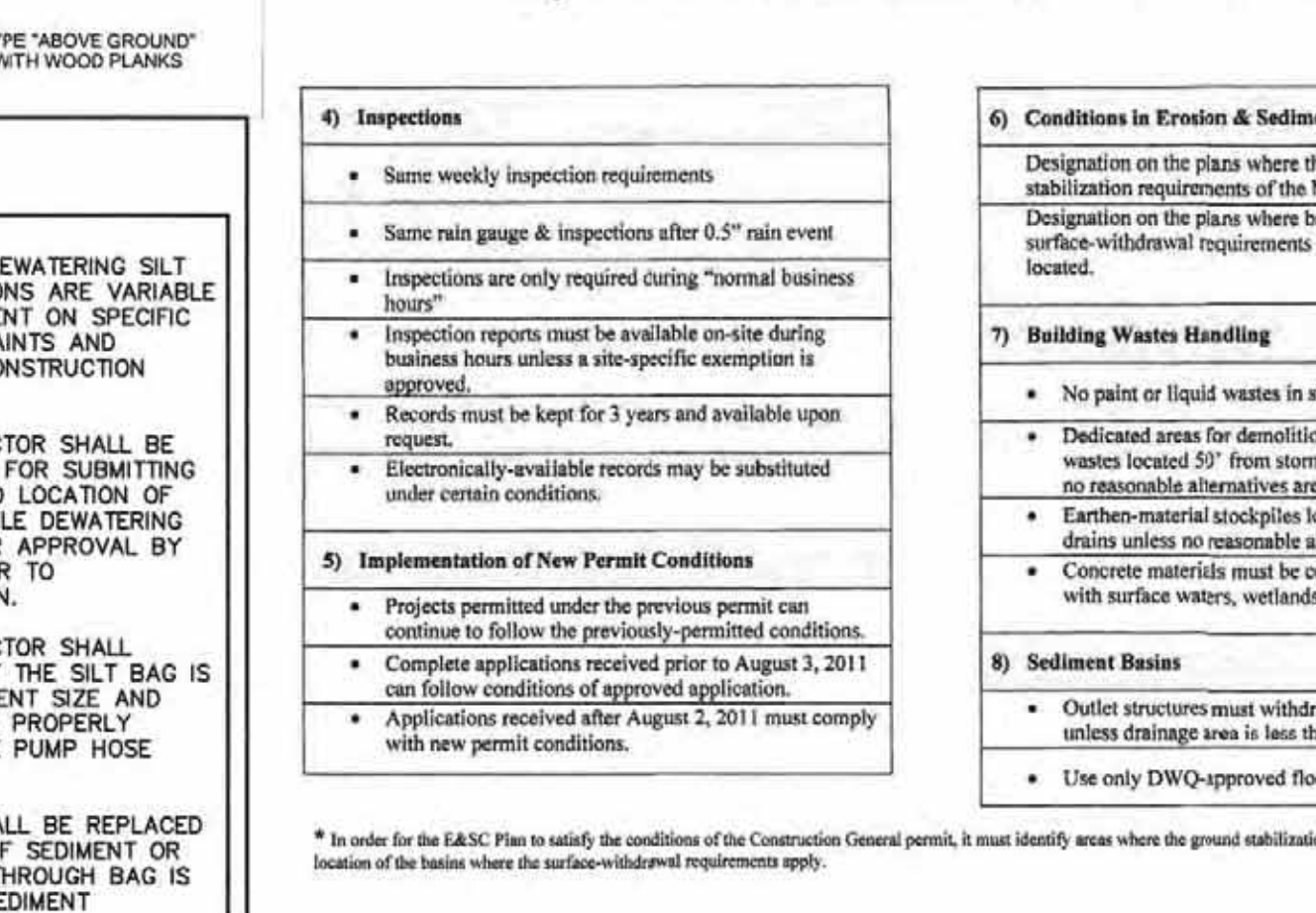
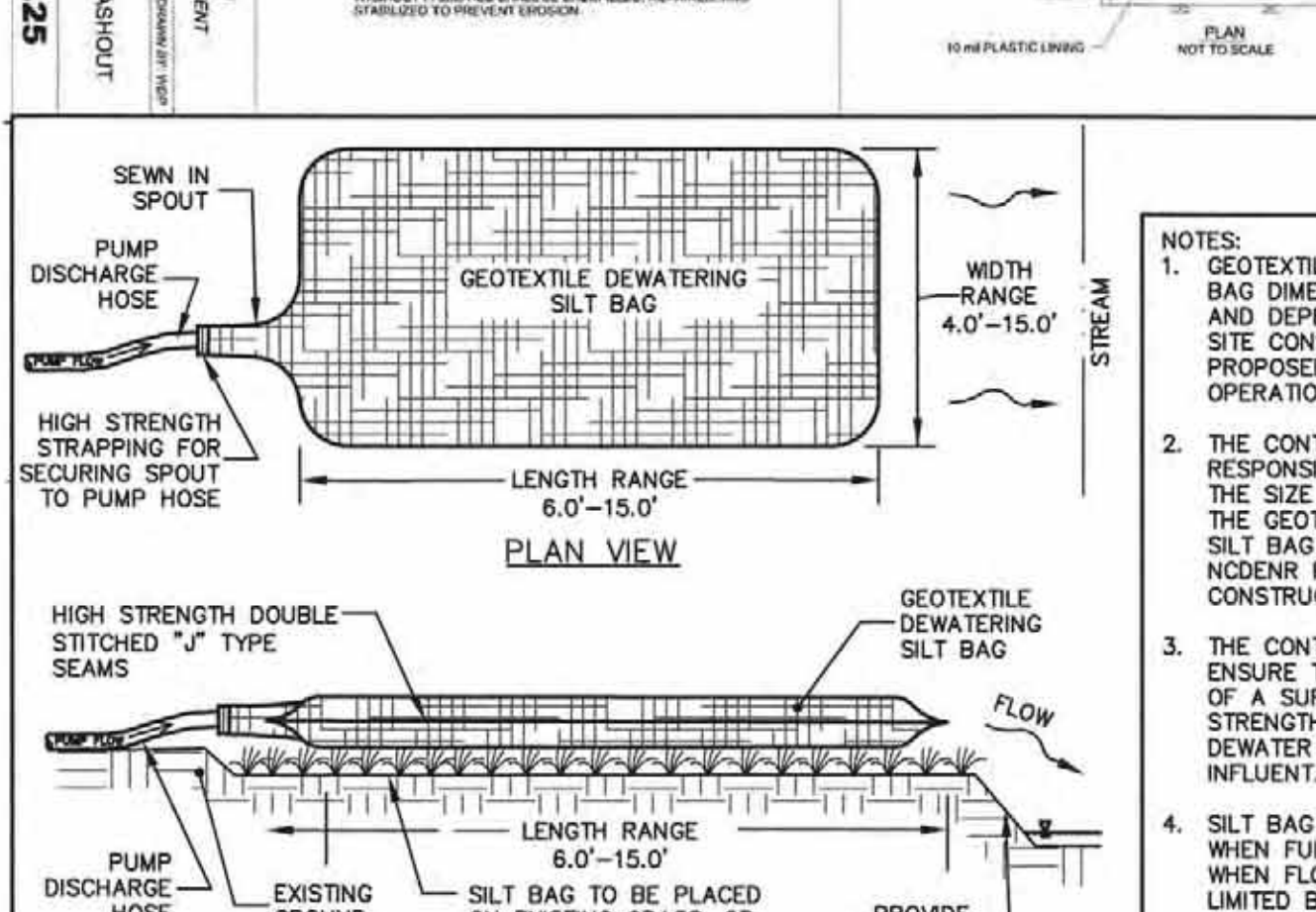
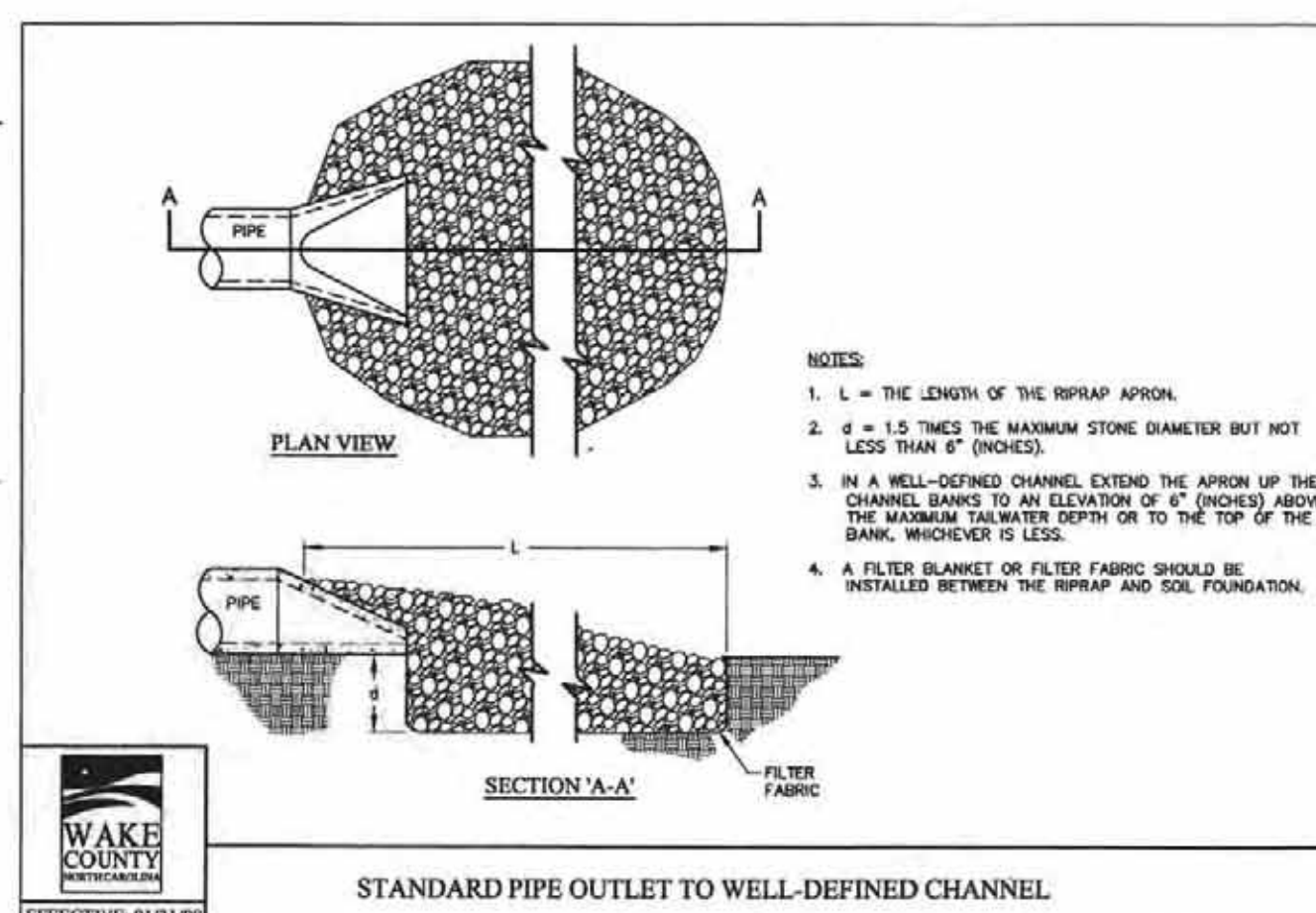
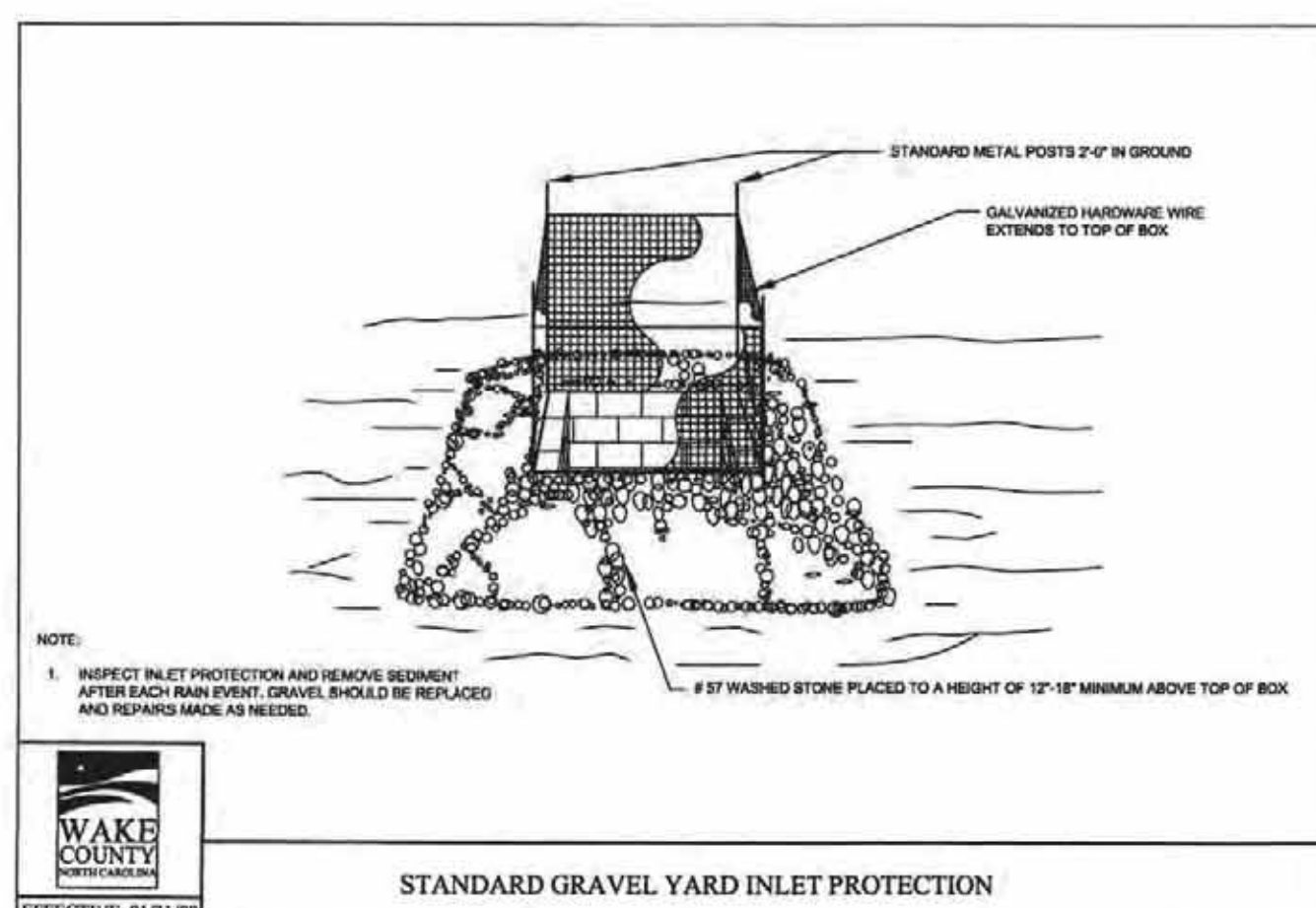
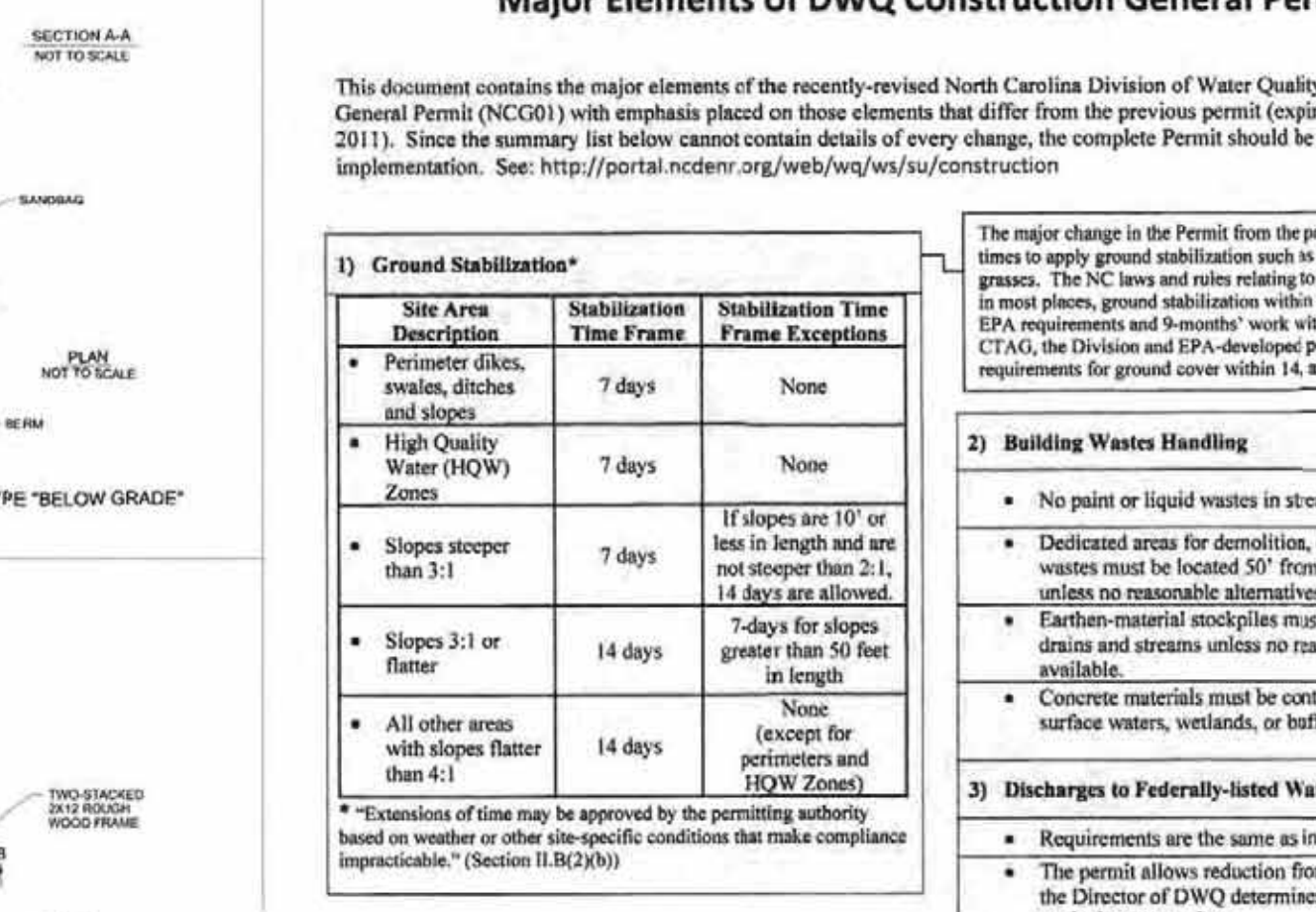
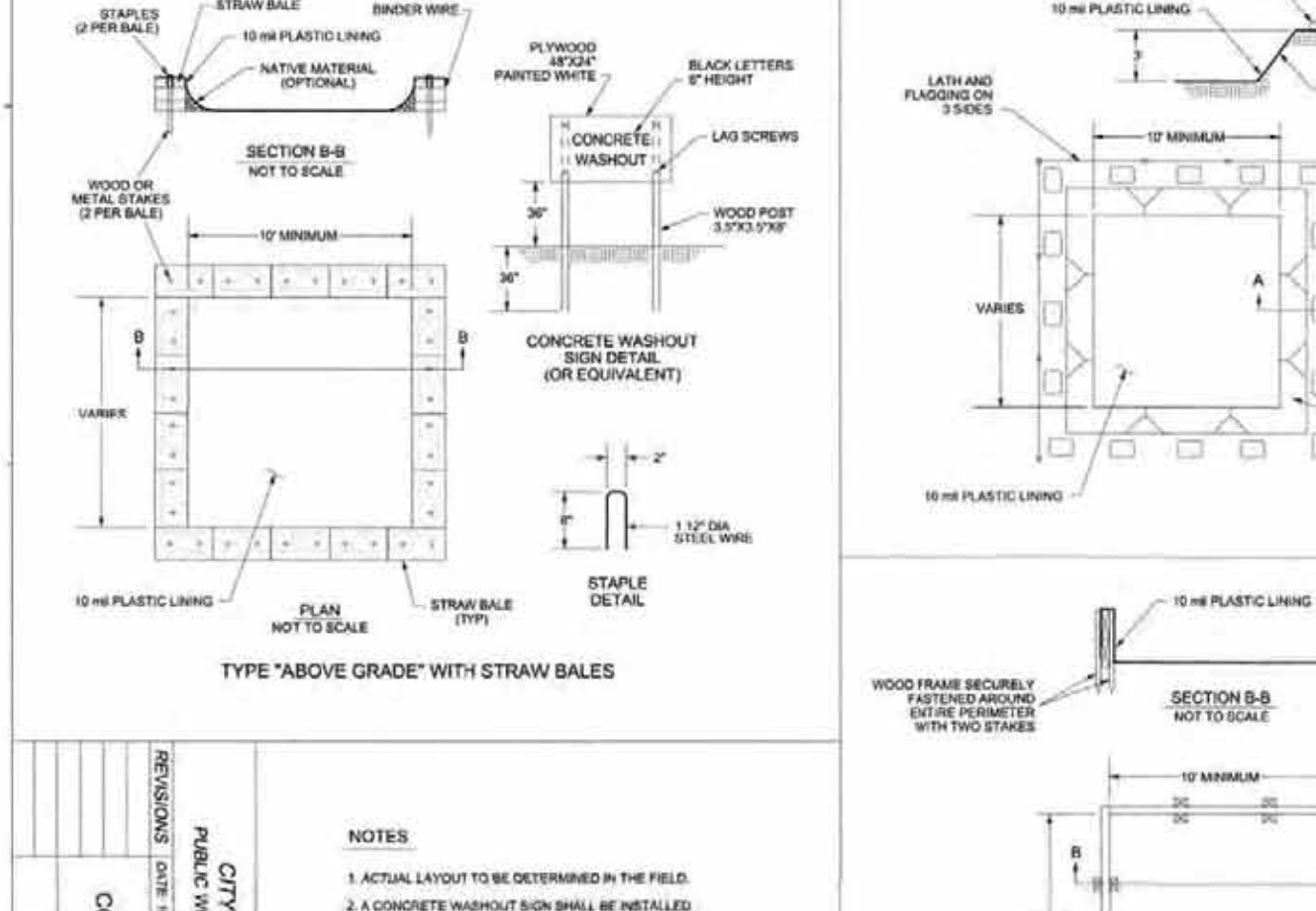
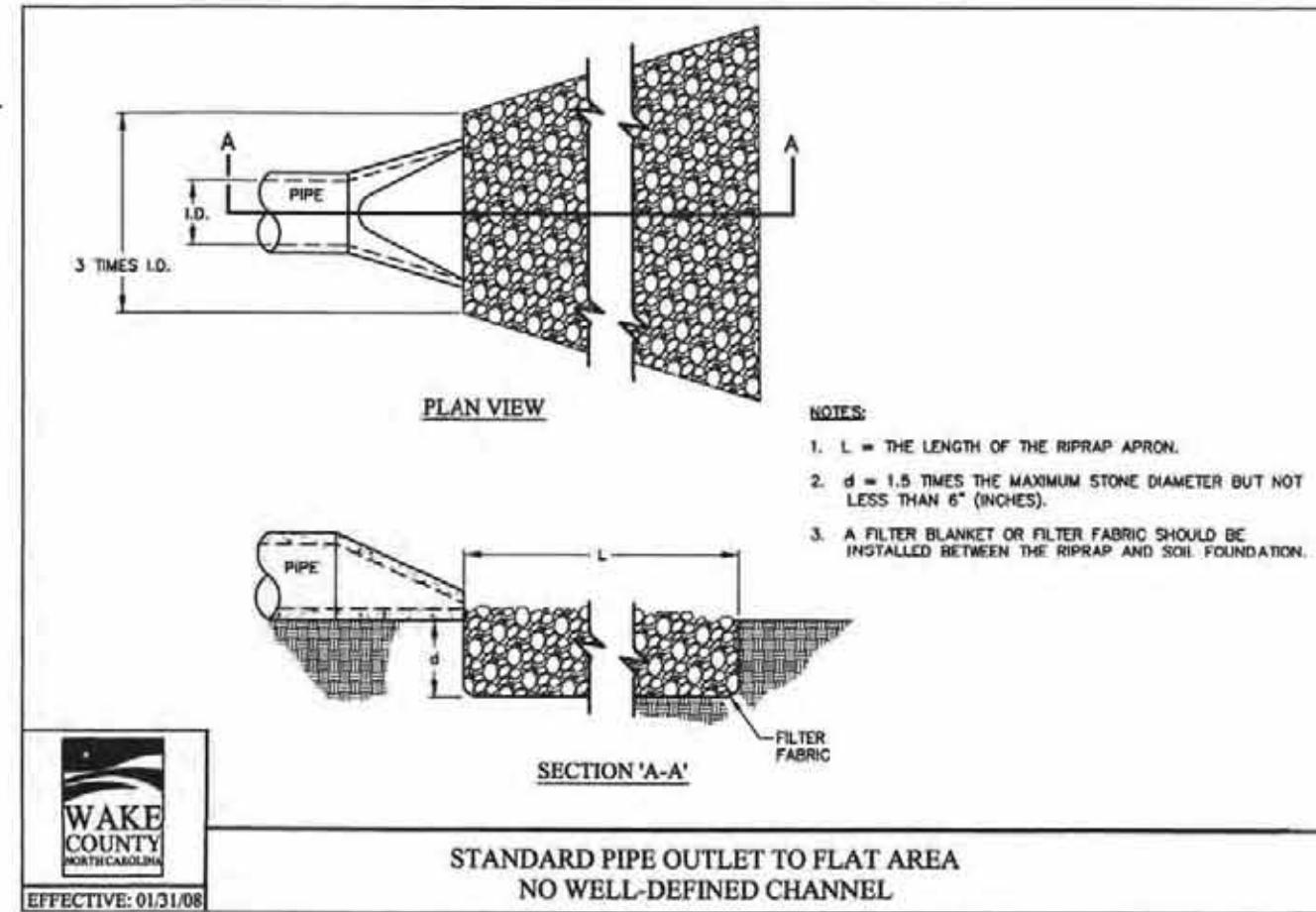
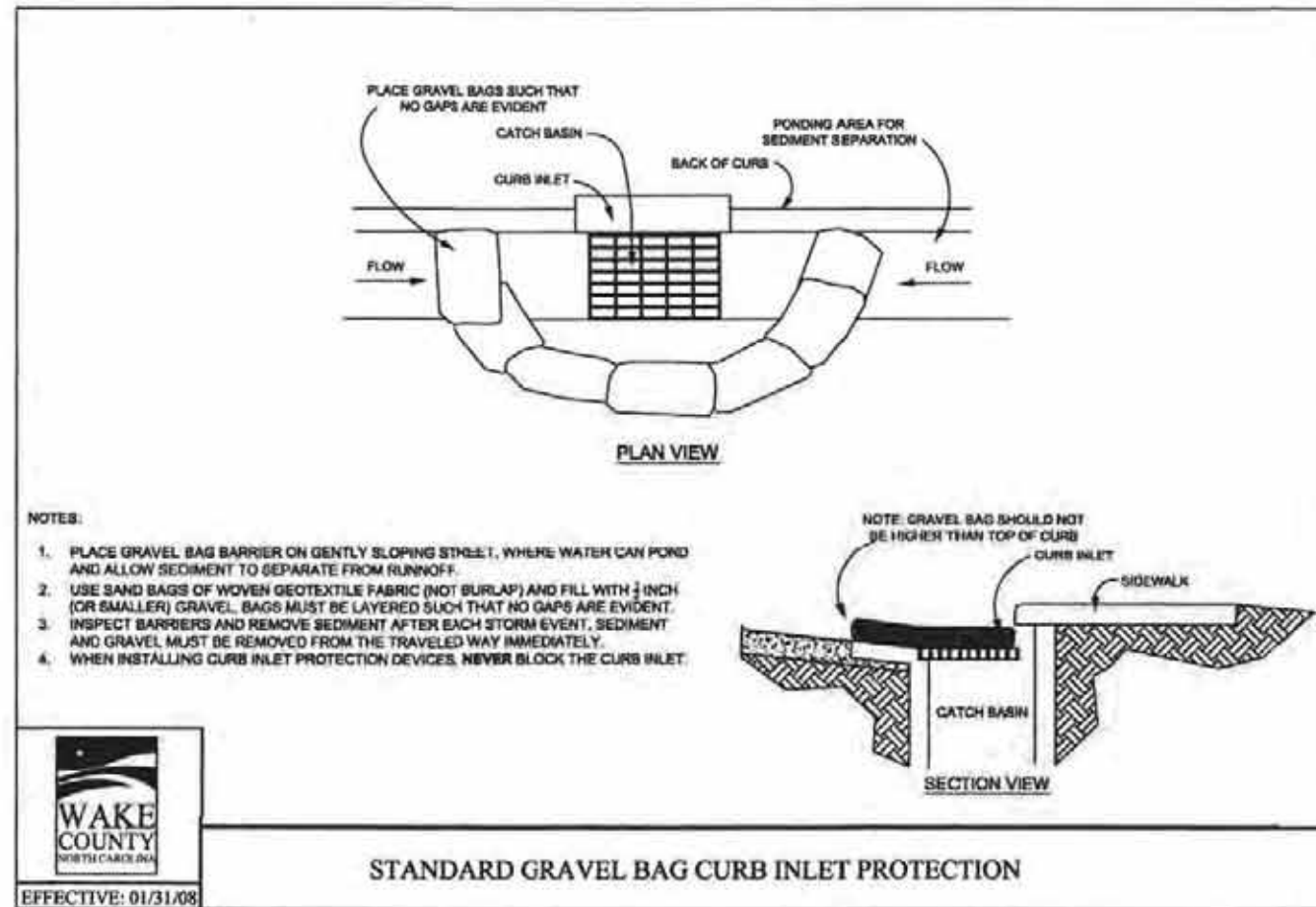
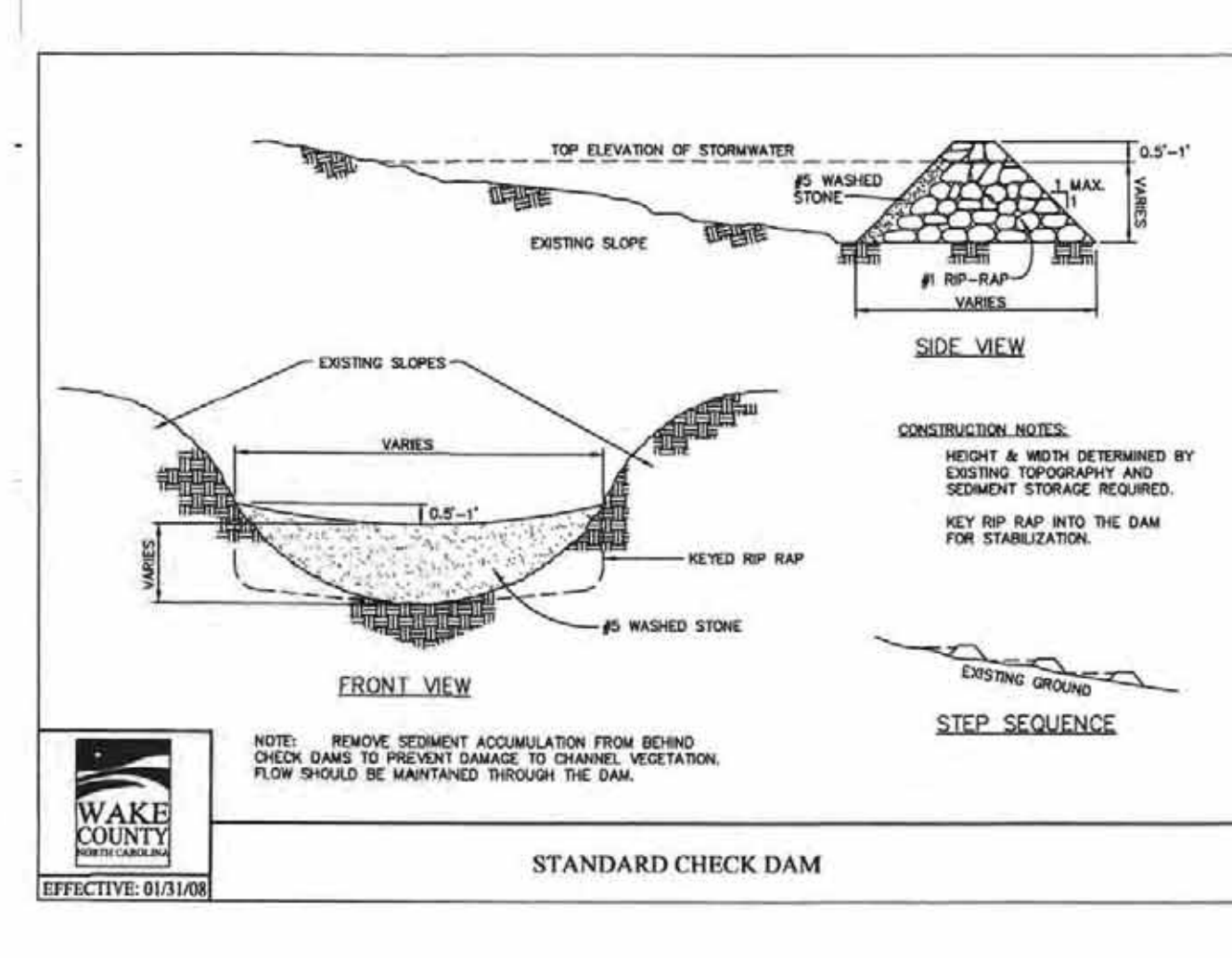
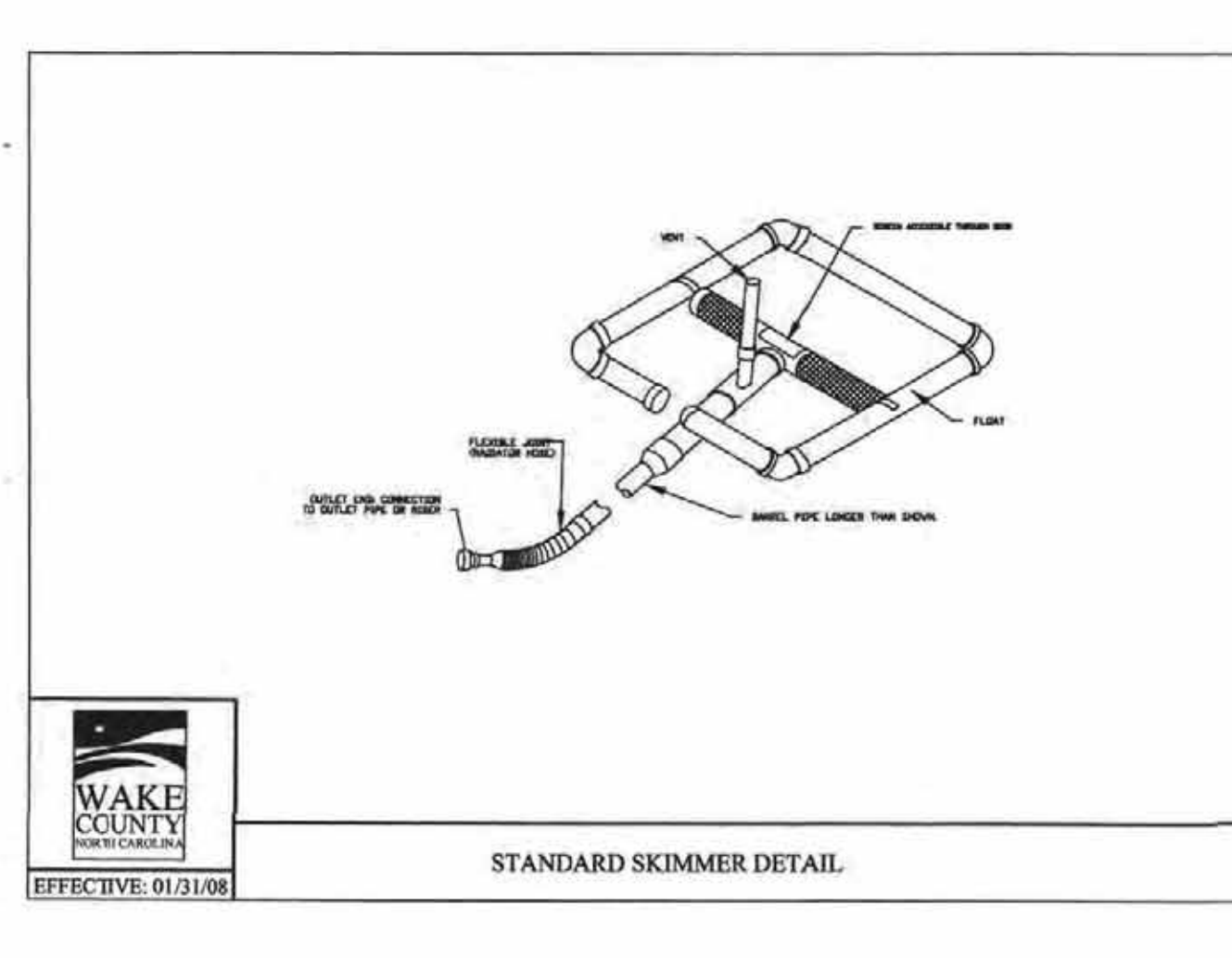
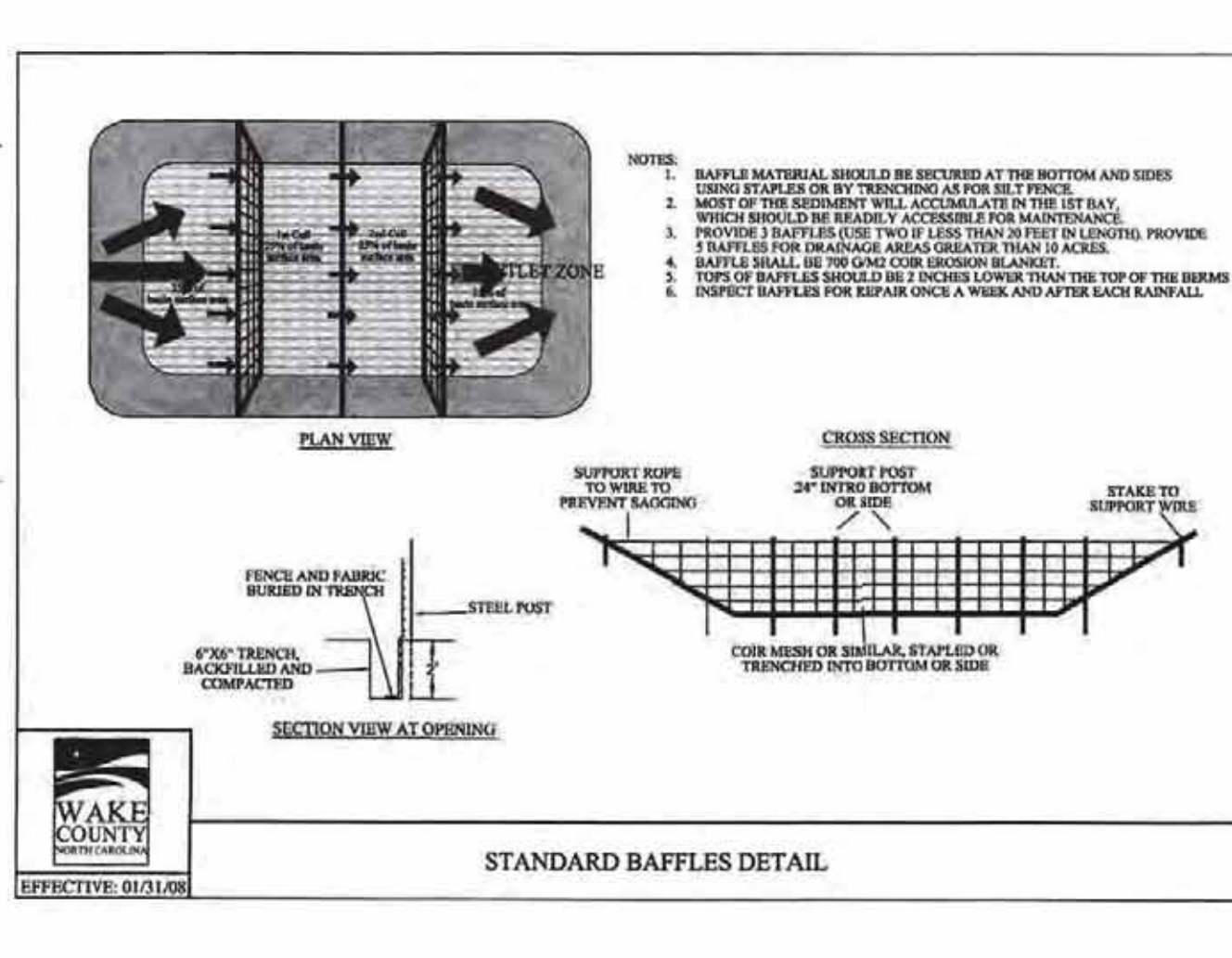
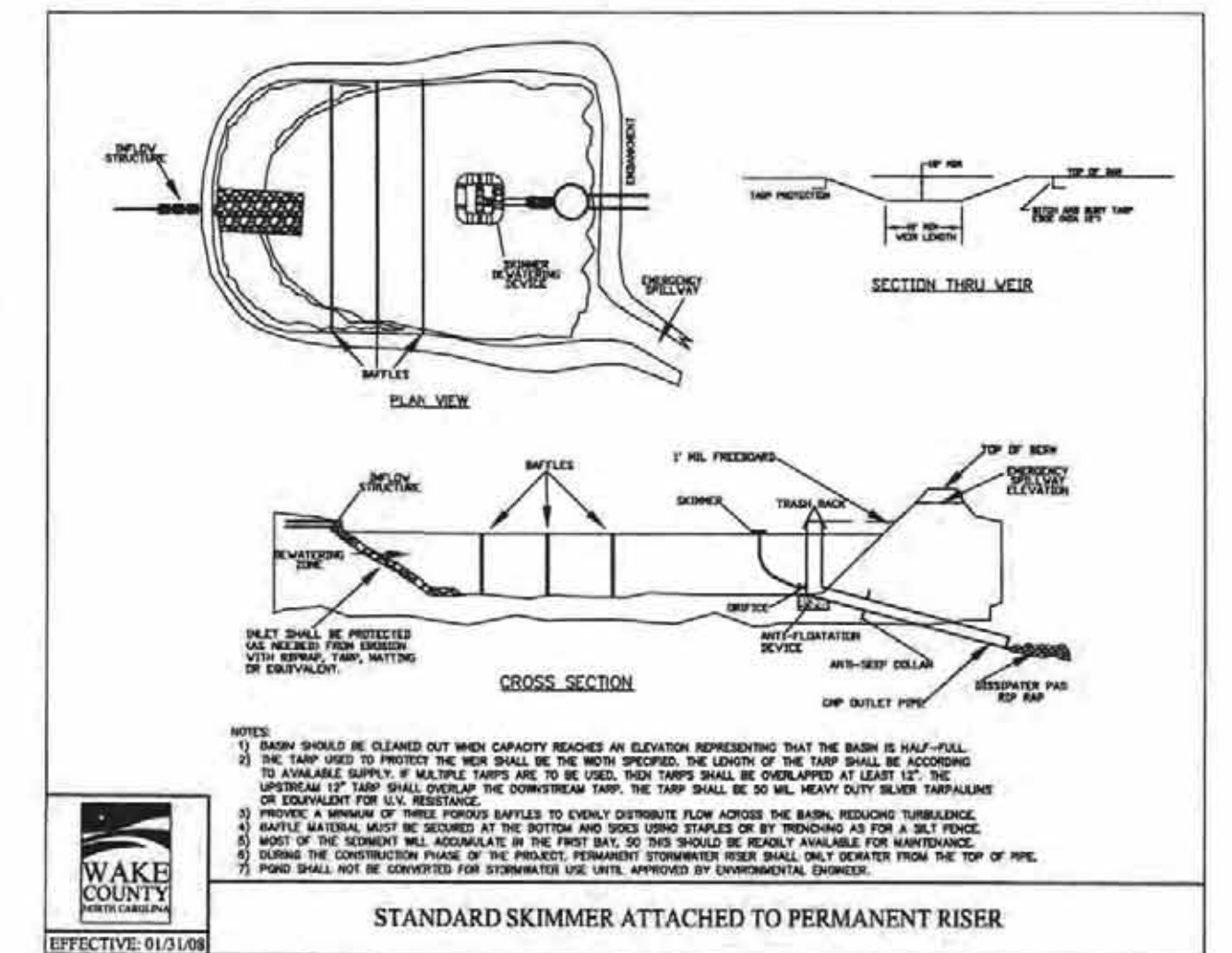
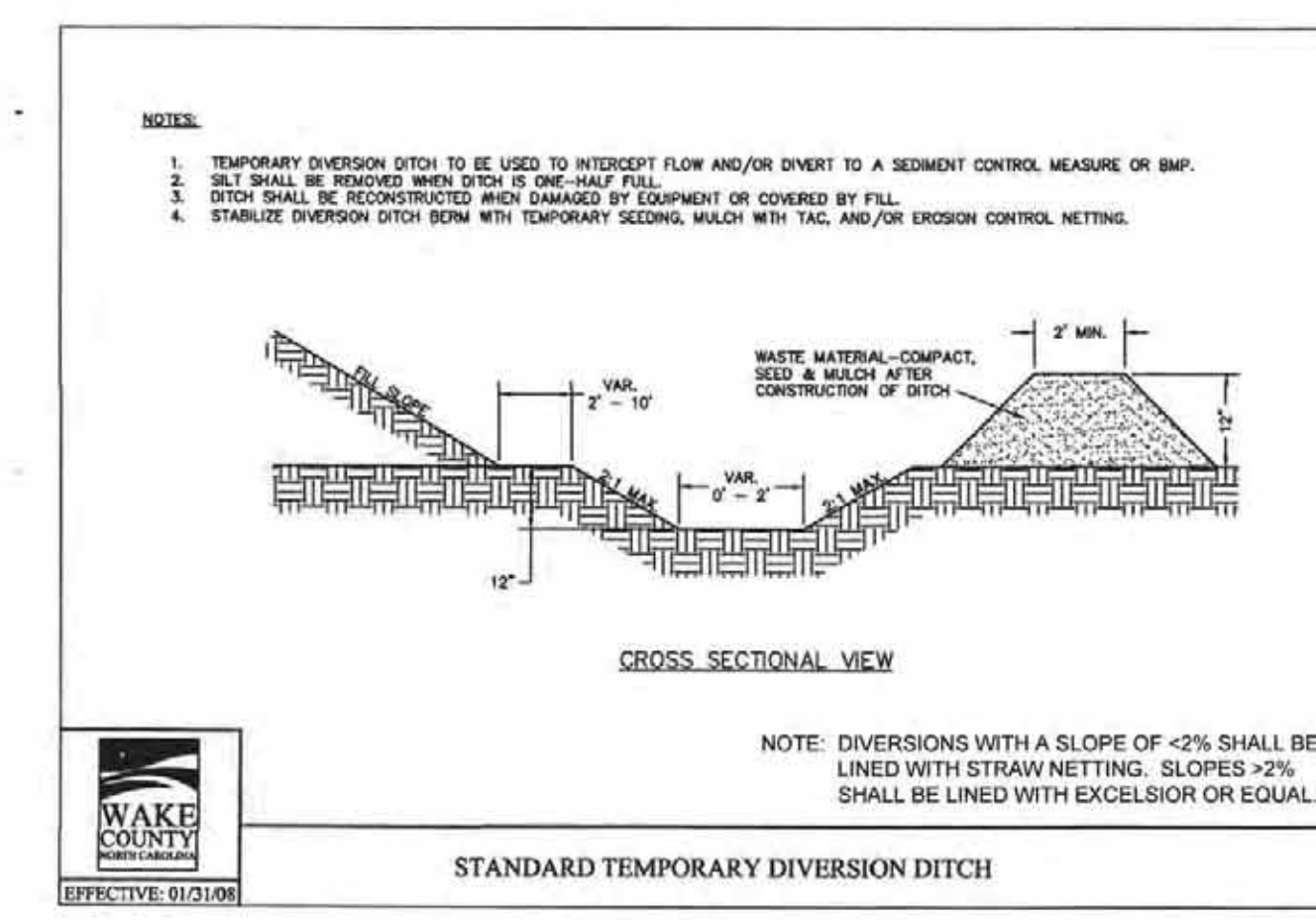
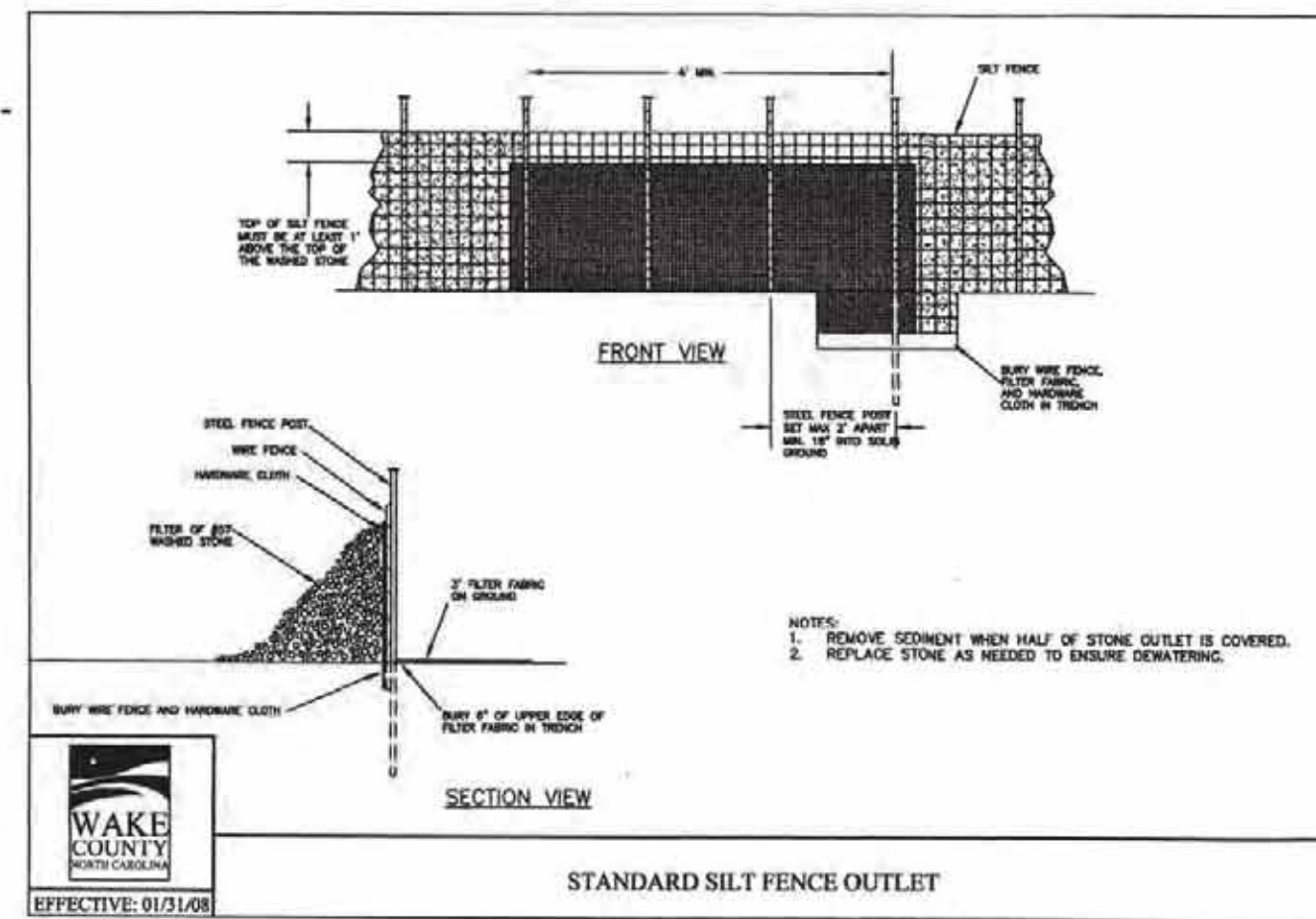
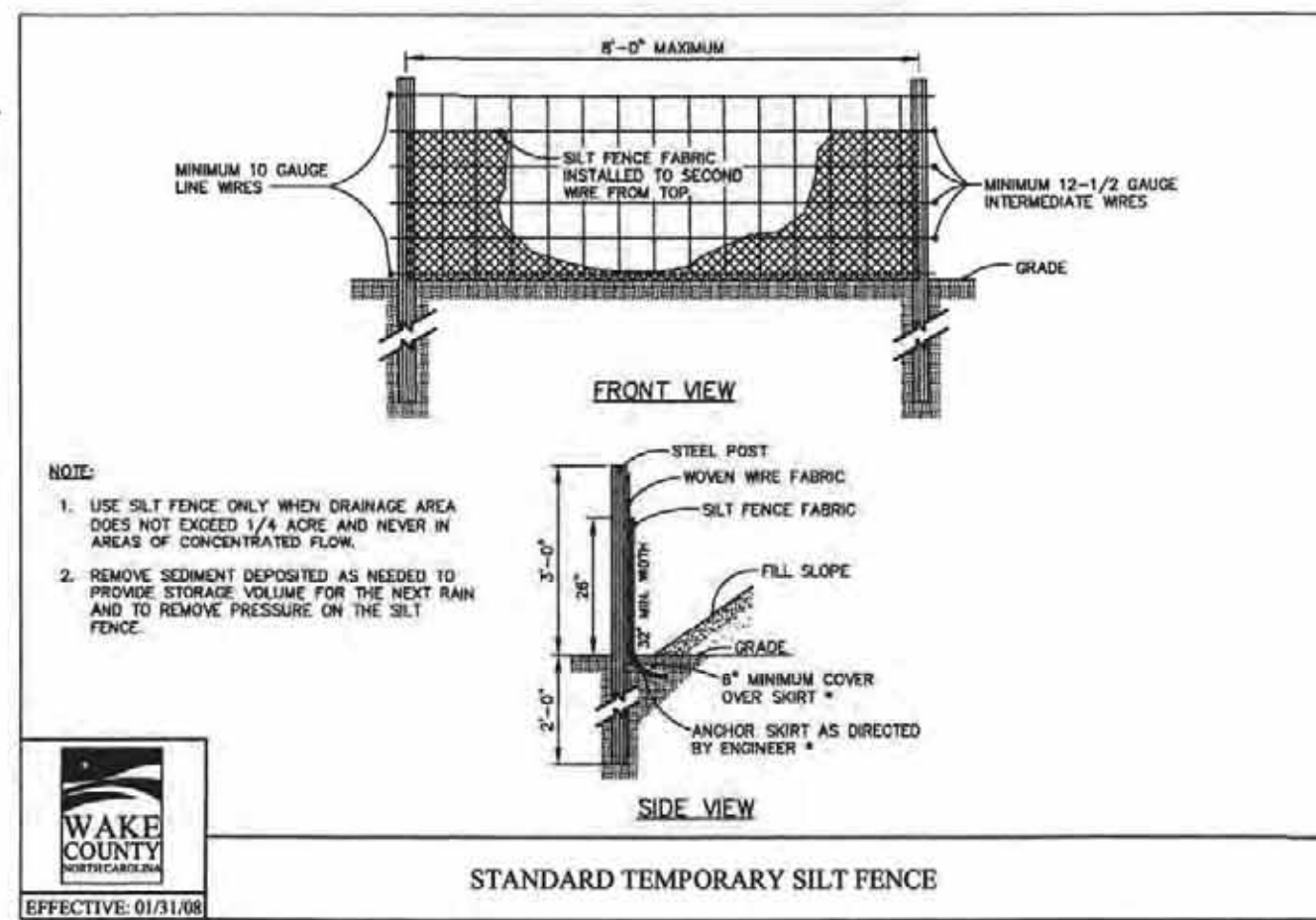
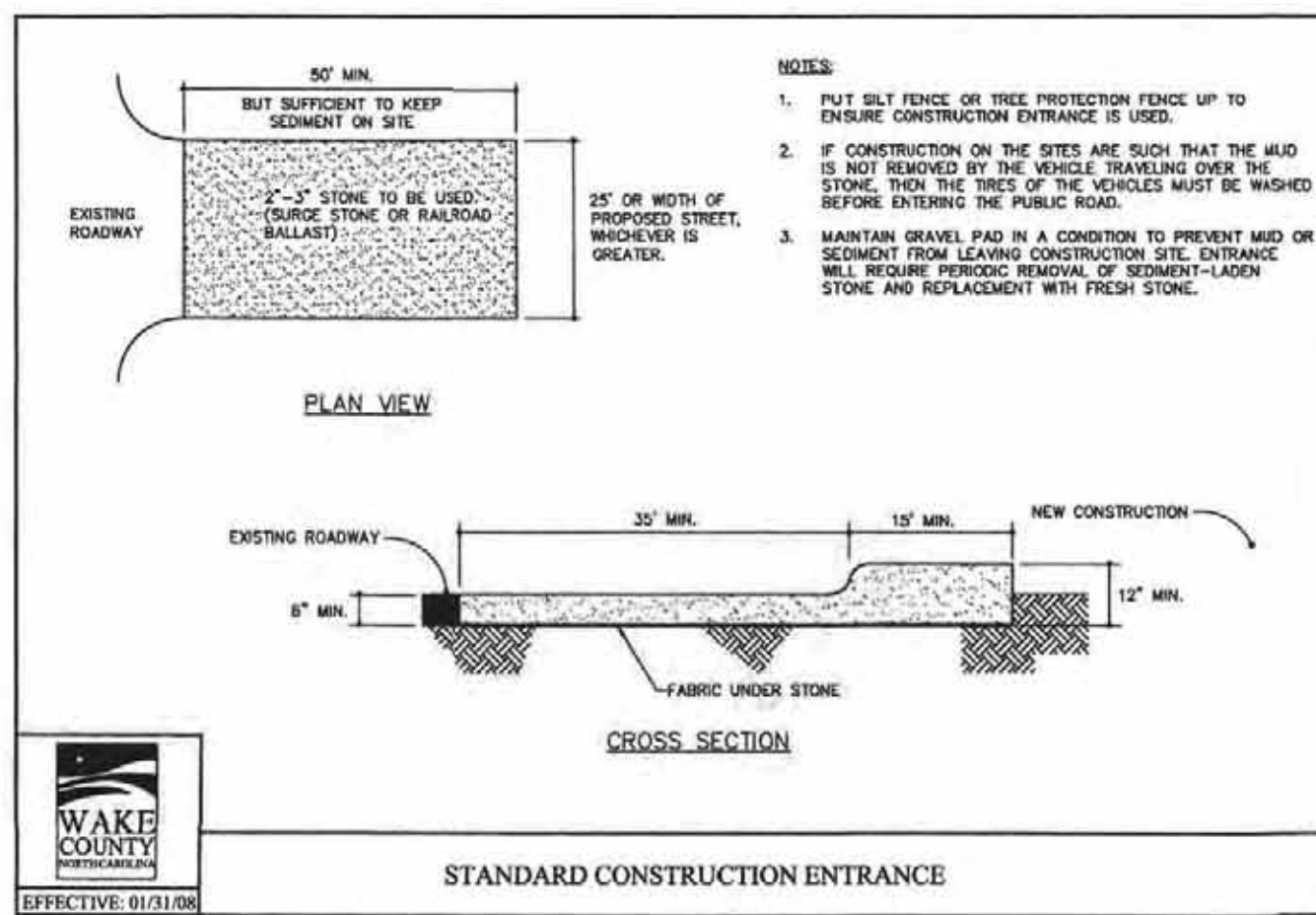
JAECO #: 830-02

Drawn By: LEH

Checked By: JAE

Date Issued: 08-31-2017

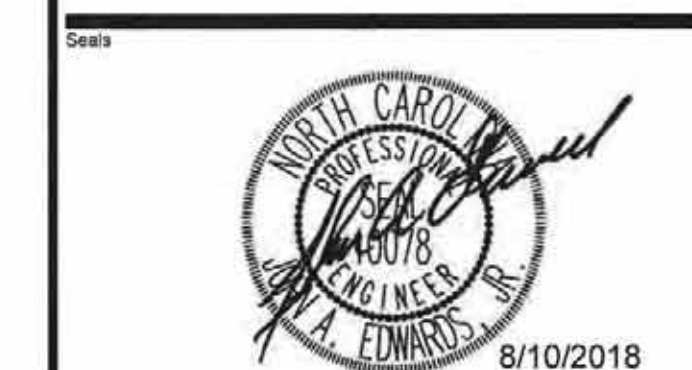
CE-11



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and Land Surveyors

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ROLESVILLE, NC 27571

TOWN OF ROLESVILLE
502 SOUTHTOWN CIRCLE
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Major Elements of DWQ Construction General Permit

This document contains the major elements of the recently-revised North Carolina Division of Water Quality (DWQ) Construction General Permit (NCGP) with emphasis placed on those elements that differ from the previous permit (expirations on August 2, 2011). Since the summary list below cannot contain details of every change, the complete Permit should be used to assure full implementation. See: <http://portal.ncdcr.gov/web/wq/wq/su/construction>

Site Area Description	Stabilization Time Frame	Stabilization Time Exemptions
Perimeter dikes, swales, ditches and slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 3:1, 14 days are allowed.
Slopes 3:1 or flatter	14 days	7-days for slopes greater than 50 feet in length.
All other areas with slopes flatter than 4:1	14 days	None (except for perimeter and HQW Zones)

*Extensions of time may be approved by the permitting authority based on weather or other site-specific conditions that make compliance impracticable." (Section II.B.2(b))

The major change in the Permit from the previous one is the shorter times to apply ground stabilization such as mulch, wheat straw, or grasses. The NC laws and rules relating to the Sediment Act require, in most places, ground stabilization within 21 days. Based on the new EPA requirements and 9-months' work with a permit advisory group, CTAAG, the Division and EPA-developed permit, now contains requirements for ground cover within 14, and in some places, 7 days.

2) Building Wastes Handling

- No paint or liquid wastes in stream or storm drains
- Dedicated areas for demolition, construction and other wastes must be located 50' from storm drains and streams unless no reasonable alternatives available.
- Earth-material stockpiles must be located 50' from storm drains and streams unless no reasonable alternatives available.
- Concrete materials must be controlled to avoid contact with surface waters, wetlands, or buffers.

3) Discharges to Federally-listed Waters

- Requirements are the same as in previous permit.
- The permit allows reduction from the 20 acre minimum if the Director of DWQ determines that other BMPs provide equivalent protection.

Major Elements of DWQ Construction General Permit- Continued

4) Inspections

- Same weekly inspection requirements
- Same rain gauge & inspections after 0.5" rain event
- Inspections are only required during "normal business hours"
- Inspection reports must be available on-site during business hours unless a site-specific exemption is approved.
- Records must be kept for 3 years and available upon request.
- Electronically-available records may be substituted under certain conditions.

5) Implementation of New Permit Conditions

- Projects permitted under the previous permit can continue to follow the previously-permitted conditions.
- Complete applications received prior to August 3, 2011 can follow conditions of approved application.
- Applications received after August 2, 2011 must comply with new permit conditions.

* In order for the EASC Plan to satisfy the conditions of the Construction General Permit, it must identify areas where the ground stabilization requirements apply and the location of the basins where the surface-withdrawal requirements apply.

6) Conditions in Erosion & Sedimentation Control Plans*

Designation on the plans where the 7 and 14-day ground stabilization requirements of the NPDES permit apply

7) Building Wastes Handling

- No paint or liquid wastes in stream or storm drains
- Dedicated areas for demolition, construction and other wastes located 50' from storm drains and streams unless no reasonable alternatives are available.
- Earth-material stockpiles located 50' from storm drains unless no reasonable alternatives available.
- Concrete materials must be controlled to avoid contact with surface waters, wetlands, or buffers.

8) Sediment Basins

- Outlet structures must withdraw from basin surface unless drainage area is less than 1 acre.
- Use only DWQ-approved flocculants.

Drawing Title: **EROSION CONTROL DETAILS**

Date	Description	By
8-10-18	PER WAKE COUNTY, ROLESVILLE, CITY OF RALEIGH, NCDOT, & NCDQO COMMENTS	LEH

Revisions

JAECO #: 830-02

Drawn By: LEH

Checked By: JAE

Date Issued: 08-31-2017

CE-12



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POND 1

SHALLOW LAND PLANTING

USE AT LEAST 3 VARIETIES AND PLANT A MINIMUM OF 6 CELLS
OF AT LEAST 26 PLANTS EACH FOR A TOTAL OF 156 SHALLOW
LAND PLANTS (SEE SCHEDULE FOR APPROVED PLANTS)

SHALLOW WATER PLANTING

USE AT LEAST 3 VARIETIES AND PLANT A MINIMUM OF 6 CELLS
OF AT LEAST 23 PLANTS EACH FOR A TOTAL OF 138 SHALLOW
WATER PLANTS (SEE SCHEDULE FOR APPROVED PLANTS)

POND 2

SHALLOW LAND PLANTING

USE AT LEAST 3 VARIETIES AND PLANT A MINIMUM OF 6 CELLS
OF AT LEAST 26 PLANTS EACH FOR A TOTAL OF 156 SHALLOW
LAND PLANTS (SEE SCHEDULE FOR APPROVED PLANTS)

SHALLOW WATER PLANTING

USE AT LEAST 3 VARIETIES AND PLANT A MINIMUM OF 6 CELLS
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LITTORAL SHELF PLANTS

SHALLOW LAND

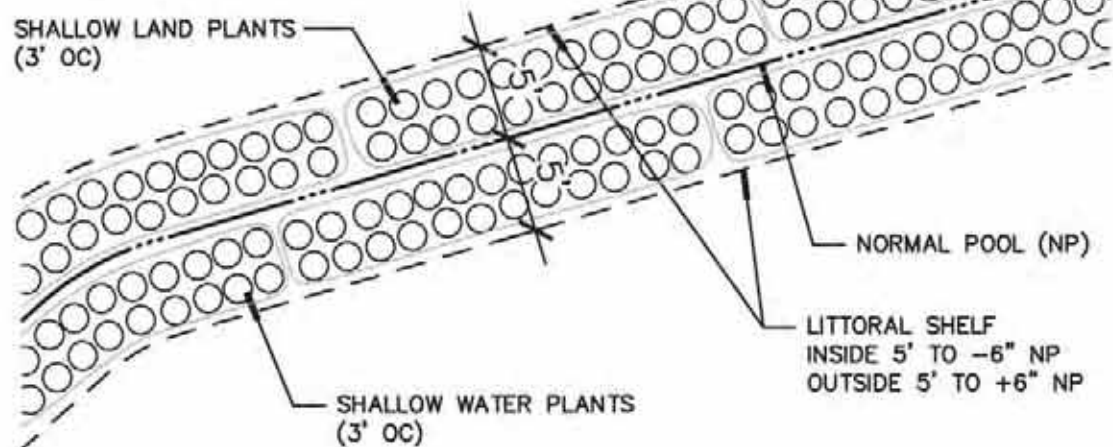
(Herb.)

Dl	Dichromena latifolia	White star grass	4-6" pot
Ef	Eupatorium fistulosum	Joe Pye weed	4-6" pot
Hg	Hibiscus grandiflorus	Velvet Mallow	4-6" pot
Hc	Hibiscus coccinea	Scarlet Rose Mallow	4-6" pot
Cg	Chelone glabra	White turtlehead	4-6" pot
Lc	Lobelia cardinalis	Cardinal flower	4-6" pot

SHALLOW WATER

(Herb.)

As	Acorus Spp	Sweet flag	4-6" pot
Iv	Iris versicolor	Blue flag Iris	4-6" pot
Pc	Pontederia cordata	Peckered weed	4-6" pot
Pv	Peltandra virginica	Arrow arum	4-6" pot
Sl	Sagittaria longiloba	Arrowhead	4-6" pot
Je	Juncus effusus	Soft rush	4-6" pot



WET POND LITTORAL SHELF PLANTING DETAIL

NTS

ALL CONSTRUCTION SHALL BE IN
ACCORDANCE WITH WAKE COUNTY
STANDARDS AND SPECIFICATIONS

ATTENTION CONTRACTORS

The Construction Contractor responsible for the extension of water,
sewer, and/or reuse, as approved in these plans, is responsible for
contacting the Public Utilities Department at (919) 998-4540 at
least twenty-four hours prior to beginning any of their construction.

Failure to notify both City Departments in advance of beginning
construction, will result in the issuance of monetary fines, and require
reinstallation of any water or sewer facilities not inspected as a result
of this notification failure.

Failure to call for inspection, install a Downstream Plug, have
Permitted Plans on the Jobsite, or any other Violation of City of
Raleigh Standards will result in a Fine and Possible Exclusion from
future work in the City of Raleigh.

LANDSCAPING & LIGHTING PLAN

Revisions

Date	Description	By
8-10-18	PER WAKE COUNTY, ROLESVILLE, CITY OF RALEIGH, NCDOT, & NCDCE COMMENTS	LEH

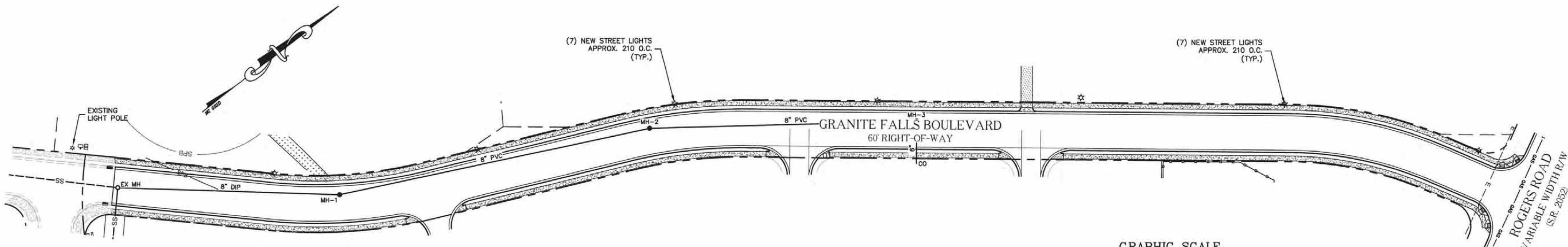
JAECO #: 830-02

Drawn By: LEH

Checked By: JAE

Date Issued: 08-31-2017

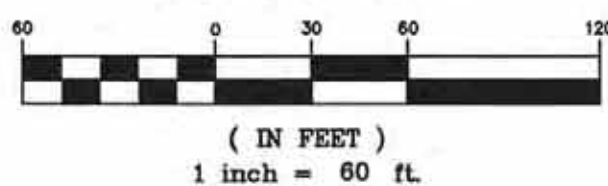
LA-1



STREETLIGHT LAYOUT

SCALE: 1"=60'

GRAPHIC SCALE



LIGHTING NOTES:

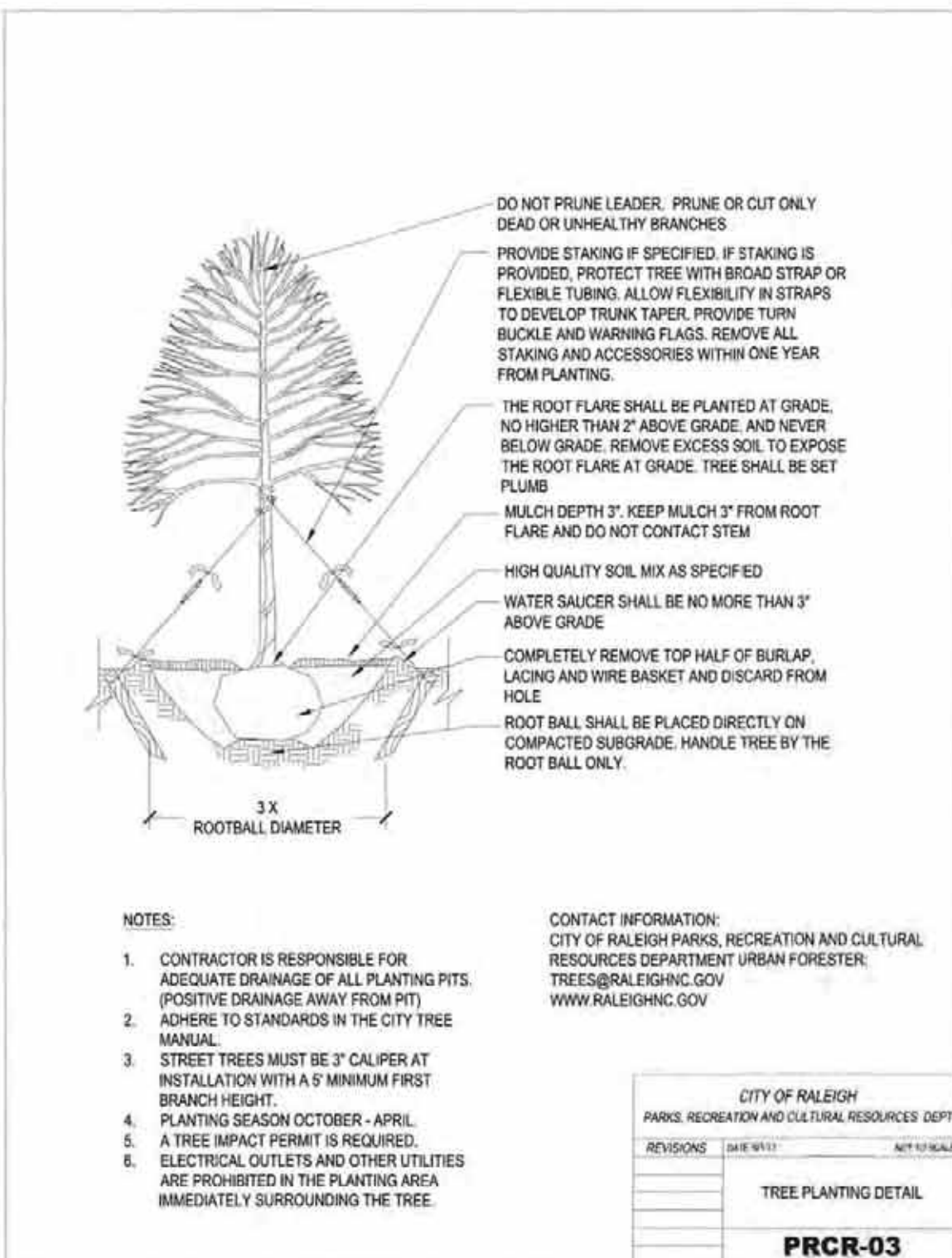
1. LIGHTING DETAILS TO BE PROVIDED BY WAKE ELECTRIC.

LANDSCAPE NOTES:

1. B&B AS LISTED UNDER "ROOT" IN THE PLANT LIST INDICATES BALLED AND BURLAPPED.
2. VERIFICATION OF TOTAL QUANTITIES AS SHOWN IN THE PLANT LIST SHALL BE THE RESPONSIBILITY OF THE PLANTING CONTRACTOR AND THE TOTAL QUANTITIES SHALL BE AS REQUIRED ON THE PLANTING PLAN.
3. ALL TREES, SHRUBS, AND PLANTS SHALL CONFORM TO ACCEPTED STANDARDS ESTABLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
4. ALL SAUCERS SHALL BE SOAKED WITH WATER AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
5. PRUNING - THIN BRANCHES AND FOLIAGE (NOT ALL END TIPS) RETAINING NORMAL PLANT SHAPE. NEVER CUT EVERGREEN LEADER.
6. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISH GRADE AS IT BORE TO GRADE IN NURSERY.
7. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO BACKFILLING.
8. VERIFICATION OF LOCATIONS OF UNDERGROUND UTILITIES IS RECOMMENDED PRIOR TO PLANTING.
9. MULCH TO BE 4" DEEP PINE STRAW.

PLANT SCHEDULE

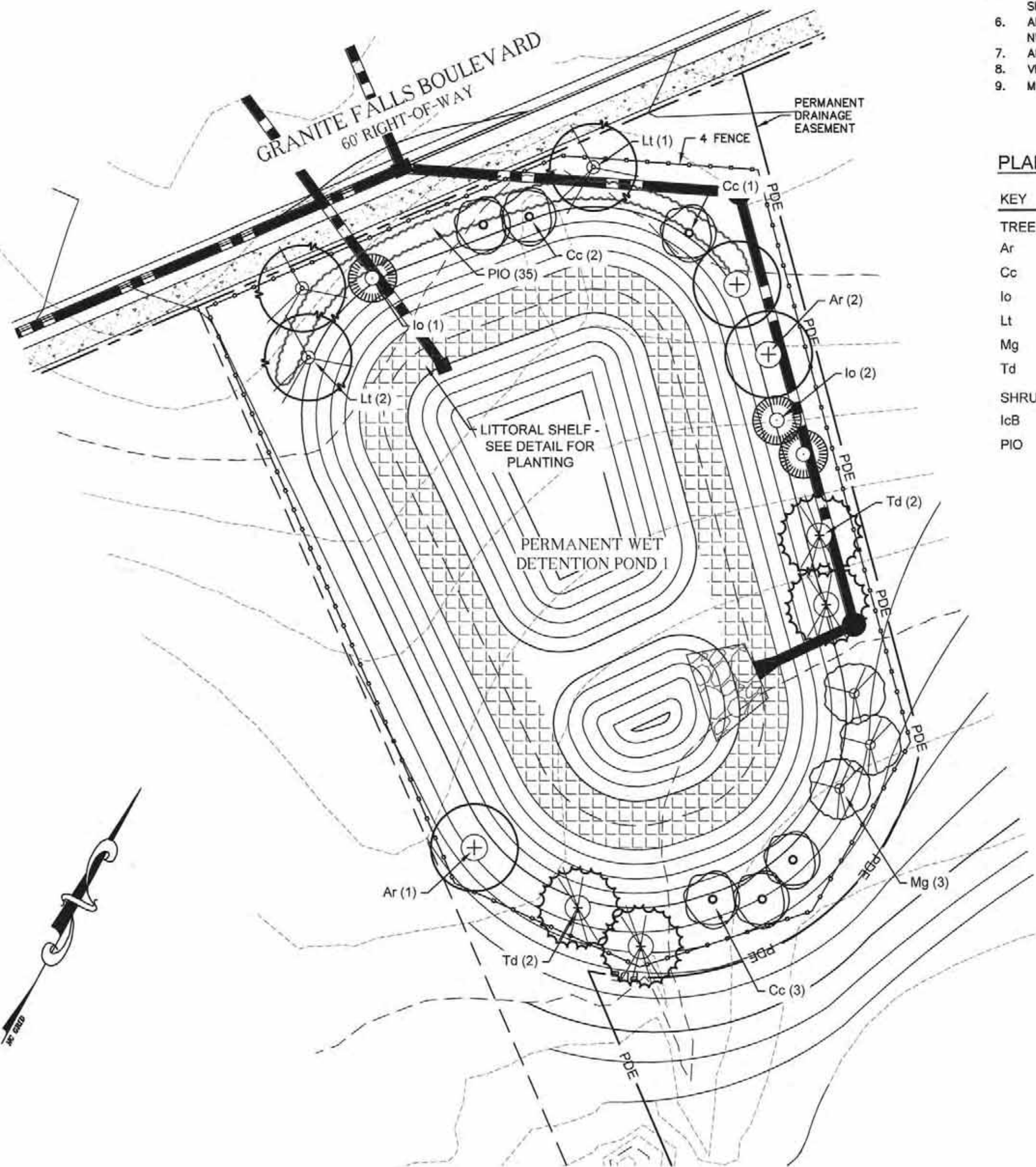
KEY	QUAN.	BOTANICAL NAME	COMMON NAME	MIN. CAL.	HT.	REMARKS
TREES						
Ar	3	Acer rubrum 'Red Sunset'	Red Maple	2"	12-14'	
Cc	6	Cercis canadensis	Redbud	2"	8-10'	
Io	3	Ilex opaca	Savannah Holly	2"	8-10'	
Lt	3	Liriodendron tulipifera	Tulip Poplar	2"	12-14'	
Mg	3	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	2"	8-10'	
Td	4	Taxodium distichum	Bald Cypress	2"	12-14'	
SHRUBS						
IoB	22	Ilex cornuta 'Burford' 'Nana'	Dwarf Burford Holly	24"	3.5' o.c.	
PIO	35	Prunus l. 'Otto Luyken'	Otto Luyken Laurel	24"	3.5' o.c.	



NOTES:

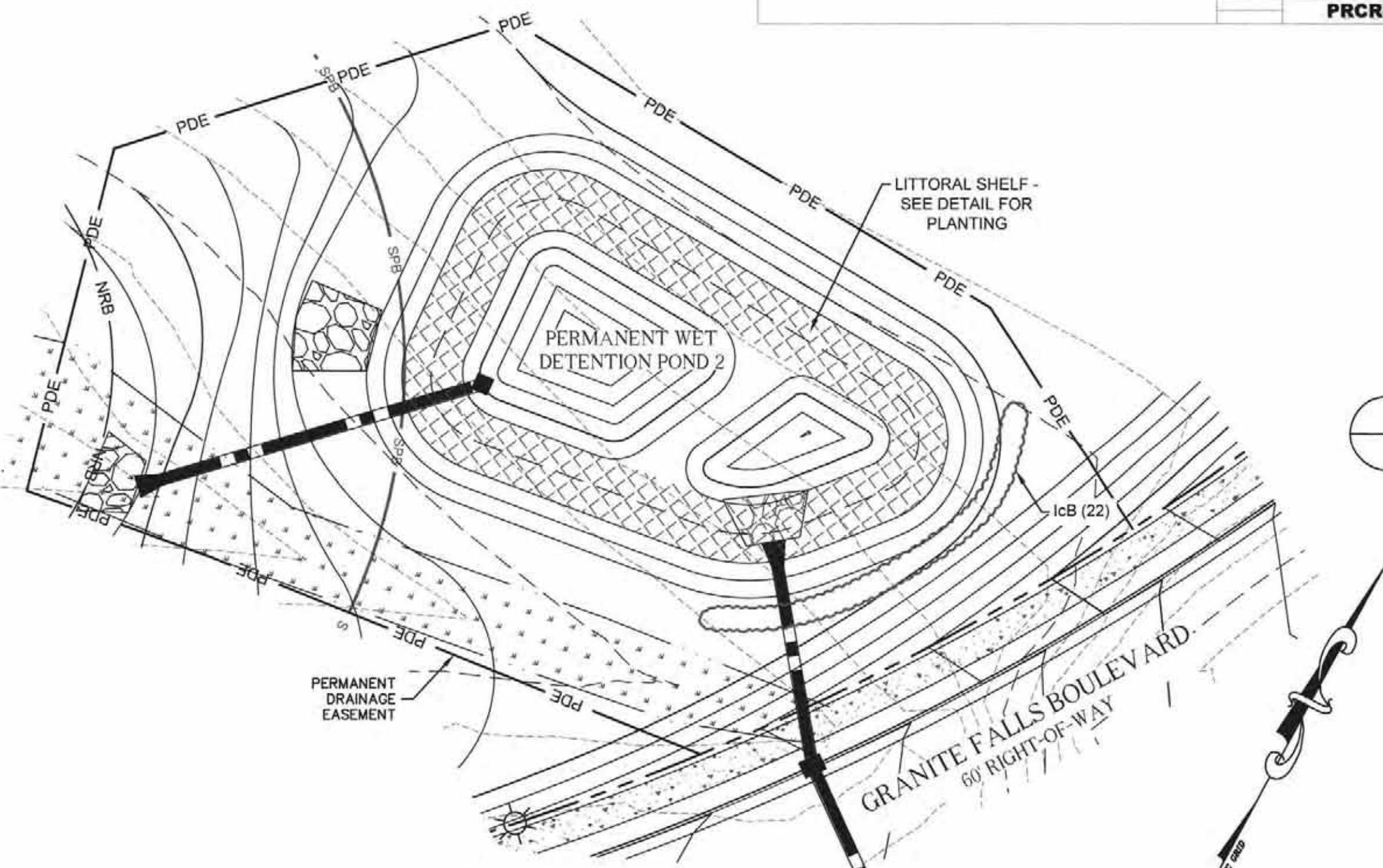
1. CONTRACTOR IS RESPONSIBLE FOR ADEQUATE DRAINAGE OF ALL PLANTING PITS. (POSITIVE DRAINAGE AWAY FROM PIT)
2. ADHERE TO STANDARDS IN THE CITY TREE MANUAL.
3. STREET TREES MUST BE 3" CALIPER AT INSTALLATION WITH A 5' MINIMUM FIRST BRANCH HEIGHT.
4. PLANTING SEASON OCTOBER - APRIL. A TREE IMPACT PERMIT IS REQUIRED.
5. ELECTRICAL, OUTLETS AND OTHER UTILITIES ARE PROHIBITED IN THE PLANTING AREA IMMEDIATELY SURROUNDING THE TREE.

CITY OF RALEIGH
PARKS, RECREATION AND CULTURAL RESOURCES DEPT.
TREES@RAL.IGOV
WWW.RALEIGHNC.GOV



POND 1 LANDSCAPE PLAN

SCALE: 1"=20'



POND 2 LANDSCAPE PLAN

SCALE: 1"=20'